The Downing Monument.

It will be vividly remembered by the readers of this periodical, how sincerely horticulturists mourned the death of Downing. We all felt as if a friend and brother had left us; even those who had not entirely appreciated the bright, particular star that rose on the heretofore barren heath of our garden literature, soon felt that a luminous planet had set; its light, however, still shines, and, while gardening is an elegant pursuit among us, which it will always be, all thinking and reading men will refer to Downing as the pioneer mind of America.

Much has been said regarding him, and much that is true continues to be said, but there is one point that is left us to say, in introducing to the pages of his own journal the engraving of the monument, which testifies the affection of the many who contributed to its erection: Downing *taught us how to live.* When he commenced his career of authorship, the fine old domestic country establishments which the American Revolution had seen, had mostly fallen into decay with the decadence of their owners; the large properties on which so many wealthy planters and farmers had lived in hospitable munificence and European grandeur, had been divided by the abrogation of the law of entail, and other causes. From the commencement of this century, one example after another of the old style of living, which we may characterize as "the four in hand," the style of the "Republican court," paled before the paternal divisions of land, particularly at the North. The democratic feeling took possession of the country, happily for its permanent prosperity. Country *style* faded away; people looked around them, in their country houses, on mere farms; to produce the necessaries of life, was the countryman's ambition. To *embellish* his home, and make it a desirable residence for his family and his successors, seemed to be no part of his duty or pleasure. To say, "a farmer," was equivalent to expressing awkwardness of manners, roughness of speech and dress, and almost ignorance. The citizen went to the country to board in the farmer's family, in summer, or to dance at Ballston or Saratoga; between the two classes there was no fellow feeling, and, with a few stately exceptions in the several divisions of our country, there was, properly speaking, no elegant rural

life. DOWNING now began to impress people with an idea that there were higher enjoyments to be found in the country than raising corn and poultry, which could be *added* to the attractions of rural life. A taste for horticulture was soon implanted in the rural population; their houses were made comfortable and elegant; glass structures brought fruit and flowers; the study of scenery, and the proper arrangement of the grounds, followed as a matter of course. In his books, and every month in his periodical, our rural Socrates gave us new inducements and instructions regarding worthy objects to expend our money, time, and taste, upon. Before his untimely end, ladies and gentlemen had ceased to talk exclusively of "taste and the musical glasses," and had found in trees, rocks, waterfalls, gardens, and scenery, something else to admire than curtains and Parisian furniture. It was truly surprising to discover that the same income that must be spent on a lot of twenty-five feet by an hundred in the city, would, in a rural neighborhood, *with knowledge* of country things, enable the expender to have a lawn and pleasure-ground, a horse, a cow, a plentiful vegetable and fruit garden, and, perhaps, a greenhouse or grapery, with their never-ending pleasures.

The "revolution" was rapid in its progress; villas grew up in every section; cities were voted a bore by a large class; we can now visit country residents who do not sit down to dinner without a coat on their backs, and we find books and pictures, billiards, and rare flower-beds, where but yesterday were weeds and stable-yards—*in the country*.

That that revolution came in our time, we mainly owe to the individual to whom we have just erected a suitable memento, the tribute of our just appreciation to his merits, genius, and originality. There it stands, in the grounds he was so actively employed in embellishing, in Washington, at the time of his decease—a shrine, where the lover of his country may make a pilgrimage, and shed a tear for all future time—an evidence that he was appreciated by his contemporaries, a monument less ambitious than our attempt to commemorate the fame of Washington, but, *in its own line*, pointing to the works of a most useful individual. Long may it stand a memento of a country's gratitude to its able teacher; long may the moistened eyes which read the following inscriptions, read the lessons he instilled; and, so long as it is visited in the proper spirit, so long as his lessons are remembered, so long shall our country be far removed from that semi-barbarism which threatened the inland dweller when DOWNING's spirit roused itself, and threw off the apathy to the love of the beautiful, which was fast overtaking us.

The monument was designed by Calvert Vaux, Esq., Architect, and Downing's partner at the time of his death, and is given above, with the inscriptions as kindly furnished by himself.

THE INSCRIPTIONS.

This vase was erected, by his friends, in memory of Andrew Jackson Downing, who died July 28, 1852, aged 37 years.

He was born, and lived, and died, upon the Hudson River. His life was devoted to the improvement of the national taste in rural art, an office for which his genius, and the natural beauty amidst which he lived, had fully endowed him. His success was as great as his genius, and for the death of few public men was public grief ever more sincere.

When these grounds were proposed, he was at once called to design them, but, before they were completed, he perished in the wreck of the steamer Henry Clay.

His mind was singularly just, penetrating, and original; his manners were calm, reserved, and courteous. His personal memory belongs to the friends who loved him, his fame to the country which honored and laments him.

—

Upon the reverse:—

"The taste of one individual, as well as that of a nation, will be in direct proportion to the profound sensibility with which he perceives the beautiful in natural scenery."

"Open wide, therefore, the doors of your libraries and picture-galleries, all ye true Republicans! Build halls where knowledge shall be freely diffused among men, and not shut up within the narrow walls of narrower institutions. Plant spacious parks in your cities, and unloose their gates as wide as the gates of morning, to the whole people."—*Downing's Rural Essays.*

—

"Weep no more,
For Lycidas your sorrow is not dead,
Sunk though he be beneath the watery floor,
So sinks the day-star in the ocean bed.
And yet, anon, repairs his drooping head,
And tricks his beams, and with new spangled ore
Flames in the forehead of the morning sky;
So Lycidas sunk low, but mounted high
Through the dear might of *Him* that walked the waves."

—

I wake, I rise,
"I climb the hill; from end to end
Of all the landscape underneath,
I find no place that does not breathe
Some gracious memory of my friend."

"'Tis held that sorrow makes us wise;
Yet how much wisdom sleeps with thee,
Which not alone had guided me,
But served the seasons that may rise?"

"And doubtless unto thee is given
A life that bears immortal fruit
In such great offices as suit
The full-grown energies of Heaven."

"And love will last as pure and whole
As when he loved me here in time,
And, at the spiritual prime,
Rewaken with the dawning soul."

—

For ourselves, we never liked Washington as the *locale* for the erection of this monument. Some spot on the Hudson River, where he labored, lived, and died, would better have comported with his own wishes and the public expectation; but it has been otherwise decided by the able committee, and we acquiesce, thankful that, unlike many good intentions, it has not utterly failed at last.

We add, with regret, that a late hasty inspection of the grounds of the Smithsonian Institute, where the monument now stands, exhibited them in a neglected state, to the shame of the Government as well as of the Regents.

THE MANGOSTEEN, OR MANGOSTAN.*

THIS extraordinary fruit is just now attracting considerable attention in England, in consequence of its having been fruited successfully at Syon House, the seat of the Duke of Northumberland, where at the same time it bore flowers, and the ripe and ripening fruit, as represented in the drawing.

The Mangosteen has long been celebrated by travellers as the best known fruit, and efforts have been frequently made to familiarize it to other countries than the Malay Peninsula, and islands to the eastward of Bengal, but, till now, in vain. The fruit is of a spherical form, of the size of a small orange; when young, it is of a reddish-green color; when ripe, of a reddish-brown; and, when old, of a

* See Frontispiece.

chestnut-brown color. Its succulent rind is nearly the fourth of an inch in thickness, containing a very powerful astringent juice, and, in wet weather, exuding a yellow gum, which is a variety of Gamboge. On removing the rind, its esculent substance appears in the form of a juicy pulp, having the whiteness and solubility of snow, and a refreshing, delicate, delicious flavor; this is the pulp of the cells, and these separate easily from each other, like the cells or lobes of an orange. "The flavor," says one who ate of the fruit produced at Syon House, "was delicious, and compared, by some who partook of it, to that between a first-rate peach and of a good grape." Dr. Abel, when speaking of the fruits of Batavia, says, "to define it by precise language would be difficult. We were all anxious to carry away with us some precise expression of its qualities; but, after satisfying ourselves that it partook of the compound taste of the pine-apple and peach, we were obliged to confess that it had many other equally good, but utterly inexpressible, flavors. From its perfect wholesomeness, it may be eaten in any quantity; and, as it possesses no luscious qualities, it does not soon cloy the palate. It is not a little singular that a plant nearly allied to the Gamboge, should yield so wholesome a fruit. The rind is astringent, and employed in cases of dysentery, and the bark of the wood is used as a dye.

In British stoves, it has attained the height of ten or twelve feet; in the Malay Islands, it is said to be twenty feet. A botanical description will be found in Curtis's *Botanical Magazine*, vol. ii., 3d series, Plate 4,847. All writers attest its great excellence.

Fig. 1. Flower. 2. Seed-vessel. 3. Flower-bud. 4. Back view of flower; the fruit, and a section of the interior, are represented above, with the leaves.

There are now, in this country, many plant-houses well calculated to grow the Mangosteen, and we hope, by publishing the plate, to induce some of our zealous propagators to attempt it. There are other rare and beautiful fruits yet to be tried among us, such as the nutmeg, a most beautiful shrub and fruit, chocolate, clove, litchis, and vanilla, all of which, ere long, we hope to see gracing our exhibitions.

Some further particulars regarding the Mangosteen will be found in our last volume, page 498.

THE BEAUTIFUL IN NATURE.

BY A. D. G. CLINTON, N. Y.

WHATEVER definition of beauty we may adopt, the fact of its existence will not be questioned. It greets us on every hand, more abundantly disclosed, indeed, to the cultivated and observing eye, yet visible also to the most superficial and heedless. Physical beauty—of which alone we now speak—abounds in every department of nature. In the animal kingdom, for instance, what graceful forms and proportions, what richness and delicacy of colors, what sweetness of sounds! It was not mere utility that fashioned the humming-bird which flits around our doorways, or the bobolink pouring out his liquid, gurgling melody as he flies over the meadow. "In the commonest human face," says an artist, "there is more beauty than Raphael will take away with him." The eye is not only an admirable contrivance for conveying images of external objects to the mind, but, in its form, colors, and varying expression, is in itself beautiful. Can anything surpass the tints of an insect's wing, whether viewed by the naked eye, or through the lenses of a microscope? If we descend into the region of animalcules, the minutest living objects examined by the most powerful instruments exhibit the greatest

perfection and finish. Indeed, it seems as though the Creator had purposely drawn a veil between the common eye and some of the finest specimens of his handiwork, in order to surprise, and stimulate the investigations of science.

In the mineral kingdom, there are not only the precious and useful metals, but also beautiful gems. Those most useful often appear in pleasing forms and combinations. Here are the diamond, sapphire, emerald, topaz, ruby, and other precious stones, which, under the hand of the lapidary, reveal the most exquisite tints and shades of color. What wonder that wealth and beauty, and the pride of kingdoms, have in all ages come to this kingdom of nature for their ornaments! Surely, utility had little need of these minerals in laying the foundations of the earth. Caverns would have afforded the wild beasts and reptiles just as safe and convenient lurking-places though they had not been paved and arched over with gems.

In the vegetable kingdom, there is beauty in the seed cast into the earth; and in the plant shooting up into the sunlight, in its opening leaves, with their various forms and hues; in the out-spreading branches, stems, tendrils; in the forming bud, the expanding flower, and the ripening fruit. Notice the shape and structure of trees. Yonder elm, for example. It is not set in the ground like a post, but springs from it like a thing of life. Its massive trunk, braced up with buttresses, rises on high, then spreads out in tapering branches on every side, supporting a leafy dome whose majesty and grace charm every beholder. Analyze the tree more minutely. Examine its bark, twigs, leaves; cut into its very heart-wood, and beauty haunts you still. How wide the diversity between the pendulous willow and the stately and dense maple, the gnarled oak, the columnar poplar, and the heaven-kissing pine. Observe the variety in the form, size, and color of leaves, both of trees and plants. There is a vast range between those of the palm-tree and the *Victoria regia*, down to the leaflets of the mosses. Even in mid-summer, there are purple and blue, gray and yellow, striped and veined, splashed and spotted, and various other colored leaves, with every conceivable shade of green. And then, what changes are wrought in their color between the first pale hues of spring and the crimson and gold of autumn! And after the varied glory of summer has passed by, and the pomp of autumn is blasted, it is not the least pleasant sight of the year to observe the evergreen trees, holding out faithfully amid frosts and storms, and diffusing a smile over the cold face of winter. And, as to flowers, words cannot express their loveliness. But the wide earth is covered with them; the air is loaded with their fragrance. At every step, you trample on some wonder of elaborate workmanship and beauty. Fruits, too, at least most of them, must be set down among the beautiful. Here are ruby cherries, golden pears, fair-cheeked apples, purple grapes, which are not only good to eat, but pleasant to look upon.

There is beauty, also, in the elements of fire and water. In fire, glowing in our evening lamps, crackling on our hearthstones, throwing far its beams, by night, from many a casement on hillside and plain, illuminating the streets of cities, flashing on the headlands of rocky coasts, and shining from the sun and stars. In water, when the dew scatters diamonds on grass, shrub, and tree; when the mist spreads along the valley, or rolls up the mountain side, and when the departing shower garlands its locks with rainbows; beauty, too, when it ripples on the sea-shore, when the ocean is burnished with gold by day, and silver by night, and when its waves are gemmed with phosphorescent fires; beauty in lakes, rivers, creeks, and musical brooks, in the silvery spray of fountains, and in the silent springs, reflecting the overhanging woods.

The revolving seasons have many pleasing aspects. Spring scatters the Hepa-

tica and Anemone on the hillside, tinges the meadow with green, breathes on tree and shrub, and bids them revive, and awakes the song of birds. Summer fills the air with fragrance and music, robes the forest in deep, rich foliage, supplies man with fair and invigorating fruits, and decks his fields with the tokens of a coming harvest. She brings us cool and dewy mornings, long twilights, evening airs, resonant with the chirp of insects, the peal of distant bells, and the murmur of leaves and streams. She brings that

"—— strange, superfluous glory of the air,"

which poetry feels, though chemistry cannot discover it, brings skies of tropical richness and splendor, clouds, and refreshing rain. Autumn comes laden with ruddy fruit and golden grain; she decks the hills with variegated banners, and over all casts a thin, azure haze, softening the rugged outlines of the landscape, suffusing every object with a dreamy spell which laps the beholder in an Elysium of delight. And last in the train comes winter, spreading his white mantle over the earth, hanging crystal pendants on tree and shrub, purifying the atmosphere, giving the sky a deeper blue, and the stars an intenser lustre, filling the northern air with Auroral coruscations, and compelling the coldest heart to exclaim: "God hath made everything beautiful in its time!"

But *is* the world, indeed, one wide, unvarying scene of beauty? There are exceptions, certainly, to this general fact. In the animal and vegetable kingdoms, there are imperfect developments and deformities even. There are thorns and poisons as well as flowers and wholesome fruits. Barren deserts, vast marshes, and rocky wastes abound as well as fertile plains and blooming gardens. Tempests howl through the sky, the lightning smites the earth, volcanoes and earthquakes rend its bosom. Does not this mixed state of things indicate that something has happened to the earth since its creation? May it not be that the natural world sympathizes with its chief inhabitant and lord, bearing part of the woe which has fallen upon him?

"O earth! dost thou, too, sorrow for the past
Like man, thy offspring? * * *
* * * Dost thou wail
For that fair age of which the poets tell,
Ere yet the winds grow keen with frosts, or fire
Fell with the rains, or spouted from the hills,
To blast thy greenness?"

But, without pursuing this inquiry, it is obvious that the world is full of beauty: it surrounds man with a continual presence, and addresses his soul through every possible avenue. What, now, is the *meaning* of this beauty? It is not here by accident. The machinery of the universe might have been firmly constructed, and its parts closely fitted and properly lubricated, without being adorned with tracery, and set with gems. Why, then, did the Creator superadd the ornamental to the useful? We answer—why should he have done otherwise? It is hardly conceivable that the Divine Intelligence should manifest itself spontaneously in the way of deformity and ugliness. On the contrary, it seems proper to suppose that God made the world beautiful, because, in giving visible expression to the thoughts of his own perfect mind, he could not embody them otherwise than in forms of beauty.

Moreover, the earth so made contributes to the Divine happiness. Tell us not that the Almighty takes no pleasure in that on whose adornment he has lavished so much care, and which his own lips have pronounced "very good." The earth was not made as it is solely for man's enjoyment; else, what mean the thousand,

thousand flowers which bloom and shed their fragrance amid untrodden forests and on inaccessible mountains? What mean the uncounted gems and precious stones which lie undiscovered on the bottom of the ocean and in the bowels of the earth? Untold wonders lay open to the Divine Eye before the invention of the microscope, and doubtless still greater remain undiscovered, which no perfection of human instruments will ever enable man to behold. The Infinite Mind sees all these things at once, the vast and the minute, and finds happiness in them.

No one will deny that the world so made promotes man's happiness. The brute creation cannot appreciate beauty, and hence their happiness was not taken into the account in this thing. An ox can detect poisonous herbs by their odors, but he never stops to admire a sunset; he has no passion for mignonette. A dog will trample down the finest *parterre*, in search of a bone. Man alone, of all creatures on earth, is permitted to share with the Divine Being in the enjoyment of the beautiful. And has not that Being dealt toward man, in this respect, with a God-like benevolence? He has made the earth a Paradise—not a prison-house. He has made it not simply endurable, but a place of delight.

These things being so, the beautiful in nature should receive attentive regard. Some men affect indifference to every form of beauty, and others associate a taste for such things with mental effeminacy. The fairest lily pleases them less than the blossom of a pumpkin vine, for it promises nothing really useful. The most charming river charms them only as it feeds canals, or drives machinery. The most stately tree excites only apprehensions of its injury to some growing crop, or suggests calculations as to its worth in firewood and lumber. Let such men hear the words of Channing: "Suppose that I were to visit a cottage, and to see its walls lined with the choicest pictures of Raphael, and every spare nook filled with statues of the most exquisite workmanship, and that I were to learn that neither man, woman, nor child, ever cast an eye at these miracles of art, how should I feel their privation? how should I want to open their eyes, and to help them to comprehend and feel the loveliness and grandeur which in vain courted their notice! But every dweller in the country is living in sight of the works of a diviner Artist; and how much would his existence be elevated, could he see the glory which shines forth in their forms, hues, proportions, and moral expression!"

This love of the beautiful should be carefully fostered. Too often is it repressed and overshadowed by severely practical pursuits. Were it more assiduously cultivated, we should see less of that hard materialism and Epicureanism which now prevail, less of that perilous haste to be rich, less of that vulgar ambition for display, and more real culture of mind and simplicity of manners, more purity and contentment. Happily, the means for its culture are confined to no class in society. Wealth and power may lock up many rare specimens of art from the common gaze, but they cannot monopolize the sunset, nor the thousand forms of beauty which fill the earth.

It hardly need be added here, that it is right to enjoy the beautiful. Did not the Perfect Man, as he trod the earth, delight to look upon its various, pleasing aspects? "Consider," said he, "the lilies of the field! * * Solomon, in all his glory, was not arrayed like one of these." Man might have lived a brute's life, subsisting upon roots and nuts, but God saw fit to endow him with a higher style of existence, and planned the world expressly to minister to his intellectual wants and tastes. Does it then become man to turn away from all these things as from things forbidden? They are a royal gift, and should be gratefully received. They are not a radical cure for the ills of life, but they are a most pleasing solace. They serve to refine and elevate the taste, to calm the passions, to soothe grief, and lighten heavy burdens.

No one need fear that the beautiful in nature—say what he will of art—will prove a snare to him. Why should it not rather purify his thoughts, and lift them upward, give them higher conceptions of God and of heaven? For, if God has so wonderfully adorned this distant and comparatively insignificant planet, what will He not do in the immediate presence of His throne?

The view we have now taken, suggests an argument for rural improvement. If, as many suppose, man has brought in a measure of deformity upon the otherwise beautiful earth, let him seek to restore the earth to its primitive loveliness. He cannot, indeed, robe the entire globe in the beauty of Eden, but he can remove much of its ugliness, can fertilize much of its barrenness, and some small portion of its surface he can highly adorn. He can clear away wild forests, root out the thorn and thistle, and clothe even the most sterile soil with verdure. Whatever is already beautiful, he can preserve from desecration. He can erect comfortable and tasteful dwellings, and so arrange them within and without, that their occupants shall have daily familiarity with objects affording pleasure and promoting refinement.

Were the public taste more generally and highly cultivated, our hillsides and valleys would present a spectacle of greater beauty than they now exhibit. The neat cottage, the farm-house, the mansion, each embowered in leafy beauty, would speak, in no mistaken language, of contentment and social culture. Broad avenues of trees, mile after mile, would refresh the highway traveller. Public parks and gardens, and cemeteries, would be amply provided in the neighborhood of all our cities and villages. And, above all, each home would be surrounded with whatever could lend it ornament and grace, binding to it the heart of the child and the man of years, weaving about it precious memories which no lapse of time, nor change of fortune could ever destroy.

VISITS TO COUNTRY PLACES, No. 4.

If the regulations regarding passports that are enforced in Italy, were adopted in America, probably fewer persons would be found behind our locomotives. In the town of Bologna, at this moment, says the last *Quarterly Review*, no man can have a passport to leave his home, unless his wife, in person, or by letter, signifies her permission that he should go; if he is single, an attestation from his curate of "stato libero" is required. A gentleman cannot visit his property, and a domestic cannot go to see his family, a few miles distant, without a passport, to obtain which, in proper form, requires attendance at different places. Nor can any servant be dismissed without informing the police whither he is gone, and whence his successor comes.

What a contrast our country exhibits. The passport system is not much better in other European countries, while here we follow every whim, and trot about with as little consideration as if there was nothing to do at home; home, in fact, there is none to a large portion of our population. But, if we are ready to question what objects are taking the numbers travelling on steamboat and railroad, whom one meets in every direction, let us remember they have the same right, if right there is, of inquiry regarding ourselves. So we had better proceed to business.

Mr. Sargent's kindness arranged excursions for our horticultural party, by railroad, to the successfully planted places up and down the river: these were performed with comfort and ease, in consequence of the regularity and rapidity with which the managers of the road contrive to run their cars. The first was to the grand establishment of

Rockwood, the seat of Edwin Bartlett, Esq., near Tarrytown, about thirty miles above the city of New York. We found Mr. Bartlett in possession of a princely mansion, having a *façade* of nearly one hundred and fifty feet, several hundred acres of land finely situated on the banks of the Hudson, with a beautiful reach of river view, and with sufficient native trees on the front to screen it from obtrusive observation. The planting round the house is new; there are, however, a few of the original shade trees left, to break the glare of the southern front. Mr. Bartlett has just arranged for extensive conservatories and greenhouses, under the management of Mr. Leucars, a builder of these structures of great experience. His other improvements employed, at the time of our visit, about eighty men. There can be little doubt that, with Mr. B.'s means and liberal expenditure, and the great interest and taste shown by both Mrs. Bartlett and himself, *Rockwood* will become one of the most ornate and beautiful country-seats in America.

At Mr. Bartlett's, we had a discussion on the merits of the lawn mower, highly favorable by comparison to that instrument, and we are confident that, when it is introduced on these extensive lawns, their appearance will be greatly improved. A good lawn is so much the foundation of beauty in a country residence, that there can be no perfection without it. The dream of Downing regarding the perfection of our country-seats, will never be realized until, by deep trenching, we provide for the sustenance of the roots of the grass in our long summers, and, by this or some other mower, we shall be able quickly to remove the growth, and roll the surface. We are rapidly coming at this point, and by no means so rapidly as through the use of Swift's lawn mower. A single inspection of a highly kept place, will convince the most sceptical that no other expenditure is so important as the careful keeping of the grass. And yet, strange to say, there is no expenditure that country gentlemen hesitate more about than the frequent cutting of their lawns. There is many a place we know of, where one to two hundred thousand dollars have been spent, and yet, where the owner hesitates about cutting his lawn once in ten days, on account of the expense, and refuses to keep the grass short in the park by feeding, because he can't afford to lose his hay; and yet this same gentleman will sigh over the beauty and keeping of English places, when, if he would do as the English do, his own place would be every whit as fine. Where do you see, in England, a park in hay?

Downing's Place, at Newburgh.—During one of our delightful mornings at *Wodenethe*, we crossed the river to Newburgh, to inspect the site laid out by Downing, and to visit the poet of Idlewild.

As is known to most of our readers, the Downing mansion and grounds have been sold; they are now owned by Mr. Alger, who is making certain expensive changes and additions, which, doubtless, will increase the comforts of the residents; but it would have been more consonant to our feelings if everything had been left in the condition its planner approved, and his own laying out of the grounds preserved for the future pilgrims to this American shrine of genius. It is not for us, however, to advise, and we can only describe it as we found it. The lawn has been extended, and was in a state of progress, with little grass visible. The Warwick vase, presented by the French *artiste* who made similar ones for the Government grounds at Washington, still holds its place, and there are still marks of Downing's footprints; but, we fear, pains are taken to obliterate them. New and costly stables, in fantastic forms, have been added, a new stile of cut stone, at the garden-gate, introduced, which speaks not of Downing, and other changes are in progress which we regretted to see.

Idlewild, the residence of N. P. Willis, Esq., is one of those "natural bits of nature" which a poet must love; the owner's taste has induced him, with good

judgment, to leave nature to her own enjoyments, for it is just such a spot of "capabilities" as would ruin any common purse in a few months after the attempt at change was commenced. The road ascends, by gradual curves, a steep whose top is crowned by a modern mansion well hung with pictures, including portraits of celebrities, and busts of the divinities who preside over poets' residences. The view from this "peak" is all that poets could desire; river, rocks, trees, and waterfalls, with many of the most celebrated sites and scenes of the Highlands, West Point (which also lies at your feet, at Wodenethe), Newburgh, General Morris's house, on the opposite side of the river, and numerous traditionary nooks, conspire to fill the mind with memories and retrospections—those happy occupiers which the traveller in the long inhabited regions of the old world so lovingly dwells upon.

We found the author of "Lines to my Mother on leaving Europe" in better health than we had been led to expect. He soon proposed a promenade to his cataract, and an inspection of his fine trees. The hemlocks and the waterfall are all the letters from Idlewild have described them to be, and lovely additions to this highland home; in fact, *just the things* one would most covet. They come out in such bold relief in the poet's description, that we found ourselves quite at home among them, and felt as if perambulating some well recollected scene. The place is worthy of a poem, and a continual poem it seems to be to Willis.

RABBITS, IN SEVERE SEASONS.

BY ALLAN W. CORSON, MONTGOMERY CO., PA.

I AM always pleased to see the birds, rabbits, and even the musk-rat, rogue though he be, in my garden and nurseries, and occasionally give them "aid and comfort" when necessary, more especially by endeavoring to prevent the gunners from destroying them; and, therefore, rabbits are rather more numerous about those grounds than in some other places, and, excepting in rare instances, they do very little injury.

In the last severe and long-continued cold weather and deep snow, I placed apples, cabbage-leaves, and other vegetables, in places that they frequented, but I had a few large apple-trees which got their annual trimming during the deep snow, and the branches or spray remained on the snow, being difficult to collect and take away. Upon passing through the garden, I found on the surface of the snow rabbit tracks in great abundance in the vicinity of the trimmed trees, with well-beaten rabbit roads from tree to tree. Upon close examination, I discovered that the buds on the cut branches had been eaten, and especially those on fruit-bearing spurs, and that, after the trimming of the trees, the other provisions had been almost untouched, they evidently preferring the apple-buds.

To their enemies, who would destroy them because they are sometimes obliged to injure young trees and plants in order to subsist, and to their friends, who desire to preserve them alive in severe seasons, I recommend the providing them with thinnings and prunings of branches of orchard-trees, which are abundant at such times; then I believe they will not injure those who regard them as enemies, and they will be preserved to give pleasure to their friends.

ELECTROTYPING.

The visitor to London cannot fail to remark the extensive electrotype manufactory of the Messrs. Elkington. This firm employ about five hundred workmen, executing the designs of the best artists of the day. Their warehouses are found in Dublin, Edinburgh, and all the large towns; the firm is understood to have made a very large fortune.

Electrotype is one of the most valued gifts which science has conferred upon art, since it brings, like Parian, the most magnificent works, such as formerly only the most wealthy could obtain, within the reach of all lovers of the beautiful. The artist has attempted to portray one of their imitations of flowers in the accompanying picture, which we give as an example in "our line." The art is practised in America, but we believe not so extensively as in England.

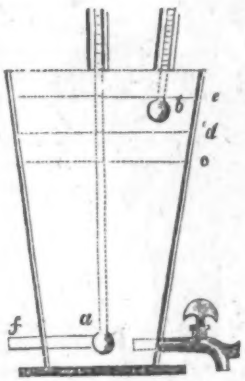
CULTURE OF THE TROPŒOLUM TRICOLOR.

It has been remarked, that the roots of this plant are developed with much more rapidity when they are simply laid upon the surface of the soil than when they are planted. It is equally well known, that it is very advantageous to the frail and delicate roots of this species, to place the pot which contains them in another pot. In this way is avoided the necessity of their running at large, as would be the case without that. The exterior pot preventing the sun's action being felt on the inside one, the roots are kept much fresher than in ordinary cases, with a less amount of earth, a speciality very important in the culture of this plant, and of all those which are remarkable for the smallness and deli-

cacy of their roots. In short, in ordinary culture, to prevent these plants from being too strongly heated, or too quickly dried by the heat of the sun, water is frequently given fully on the sides, and thus they are in great danger of suffering by excess of dampness.—*Flore de Serres.*

RATIONALE OF DRAINING LAND EXPLAINED.

THE reason why drained land gains heat, and water-logged land is always cold, consists in the well-known fact that heat cannot be transmitted *downwards* through water. This may readily be seen by the following experiments :—



Experiment No. 1.—A square box was made of the form represented by the annexed diagram, eighteen inches deep, eleven inches wide at top, and six inches wide at bottom. It was filled with peat, saturated with water to *c*, forming to that depth (twelve and a half inches), a sort of artificial bog. The box was then filled with water to *d*. A thermometer, *a*, was plunged, so that its bulb was within one and a half inch of the bottom. The temperature of the whole mass of peat and water was found to be 39½° Fahr. A gallon of boiling water was then added ; it raised the surface of the water to *e*. In five minutes, the thermometer, *a*, rose to 44°, owing to the conduction of heat by the thermometer and its guard tube ; at ten minutes from the introduction of the hot water, the thermometer, *a*, rose to 46°, and it subsequently rose no higher. Another thermometer, *b*, dipping under the surface of the water at *e*, was then introduced, and the following are the indications of the two thermometers at the respective intervals, reckoning from the time the hot water was supplied :—

	Thermometer *b*.	Thermometer *a*.
20 minutes	150°	46°.
1 hour 30 "	101°	45°.
2 hours 30 "	80½°	42°.
12 " 40 "	45°	40°.

The mean temperature of the external air to which the box was exposed during the above period was 42°, the maximum being 47°, and the minimum 37°.

Experiment No. 2.—With the same arrangement as in the preceding case, a gallon of boiling water was introduced above the peat and water, when the thermometer, *a*, was at 36° ; in ten minutes it rose to 40°. The cock was then turned, for the purpose of drainage, which was but slowly effected, and, at the end of twenty minutes, the thermometer, *a*, indicated 40° ; at twenty-five minutes, 42°, whilst the thermometer, *b*, was 142°. At thirty minutes, the cock was withdrawn from the box, and more free egress of water being thus afforded, at thirty-five minutes the flow was no longer continuous, and the thermometer, *b*, indicated 48°. The mass was drained and permeable to a fresh supply of water. Accordingly, another gallon of boiling water was poured over it, and, in

3 minutes, the thermometer, *a*, rose to		77°.
5 " " "	fell to	76½°.
15 " " "	"	70½°.
20 " " "	remained at	71°.
1 hour 50 " " "	" "	70½°.

In these two experiments, the thermometer at the bottom of the box suddenly rose a few degrees immediately after the hot water was added; and it might be inferred that heat was carried downwards by the water. But, in reality, the rise was owing to the action of the hot water on the thermometer, and not to its action upon the cold water. To prove this, the perpendicular thermometers were removed. The box was filled with peat and water to within three inches of the top; a horizontal thermometer, *a f*, having been previously secured through a hole made in the side of the box, by means of a tight-fitting cork, in which the naked stem of the thermometer was grooved. A gallon of boiling water was then added. The thermometer, a very delicate one, was *not in the least affected* by the boiling water in the top of the box.

In this experiment, the wooden box may be supposed to be a field; the peat and cold water represent the waterlogged portion; rain falls on the surface, and becomes warmed by contact with the soil, and thus heated descends. But it is stopped by the cold water, and the heat will go no further. But, if the soil is drained, and not water-logged, the warm rain trickles through the crevices of the earth, carrying to the drain level the high temperature it had gained on the surface, parts with it to the soil as it passes down, and thus produces that bottom heat which is so essential to plants, although so few suspect its existence.

This necessity of warmth at the root undoubtedly explains why it is that hardy trees, over whose roots earth has been heaped, or having laid, are found to suffer so much, or even to die; in such case, the earth in which the roots are growing is constantly much colder than the atmosphere, instead of warmer.

It is to the coldness of the earth that must be ascribed the common circumstance of vines that are forced early, not setting their fruit well when their roots are in the external border, and unprotected by artificial means; and to the same cause is often ascribed the *shanking* or shrivelling of grapes, which most commonly happens to vines whose roots are in a cold or unsunned border.

ON THE CULTURE OF THE PEACH.

BY SAMUEL T. JONES, THE CEDARS, STATEN ISLAND, NEW YORK.

As you were pleased, in a late number, to introduce some approbatory remarks upon my management of the peach, it may not be uninteresting to some of your readers to have a statement more in detail. It is not unusual to hear of the degeneracy of the peach-tree—that it is more subject to disease than formerly, and especially the *yellows*—and that the duration of the tree, in vigorous health, is limited to some six or seven years. I have even heard the belief expressed, that the *yellows* was transmitted, from generation to generation, by budding from trees apparently healthy, and, also, that the infection was liable to spread from one tree to another.

In my judgment, founded upon the experience of many years, these ideas are erroneous not less than they are injurious and discouraging to the propagation and well-being of the tree. Through the exercise of a little care and attention on the part of the grower, which is but a small return for the generous loads of delicious fruit yearly furnished by this tree, I have been enabled to preserve most of them in full vigor for a period of upwards of sixteen years.

The system I have followed first commences in the nursery, or shortly after the tree has been transplanted, by cutting out the top or central branches, leaving but three or four laterals, at a height not exceeding two or two and a half feet from the ground. This system is constantly followed in after years, which disposes the

tree to grow with a hollow centre, admitting light and air more thoroughly among the branches, and greatly facilitating the gathering of the fruit and the future prunings. These latter may be performed during the winter, early spring, or, moderately, during the summer, so as not to endanger the premature bursting or running into wood, of the buds destined to furnish fruit the following year. By means of an ordinary walking-stick, furnished with a hooked handle, the topmost branches, even of trees pruned with hollow centres, may be bent down, and made accessible from the ground, until the limbs become too rigid to bend, through extreme old age. This is by no means a small advantage, when, among many hundreds of trees, it is considered that the full flavor of the fruit so much depends upon gathering it precisely at the proper period of maturity, and through which an examination by the touch may be had with facility, of each separate fruit.

The next, and more important consideration, is to restrain the tree from exhausting itself by its too generous crops of fruit, and which can only be done, with facility, by diminishing the number of fruit-buds at the winter or early spring pruning. My constant instructions, at this time, are "not to spare the knife," being well persuaded that it is necessary not only to the longevity of the tree, but also to the size and quality of the fruit. As the fruit is borne only upon the wood formed during the preceding year, the rule is, first, duly to attend to the hollow form of the tree, which should be constantly maintained, and, secondly, to head back each fruit-bearing branch to at least one-half its extent. The crop is thus easily kept within reasonable bounds, and if, after the lapse of many years, any of the main laterals become too rigid or too much extended, new ones may be allowed to grow in their place, and the old ones then withdrawn. The vigor and growth of the tree seem to be surprisingly increased under this restraining system, as are also the size and quality of the fruit.

The third important point is, to guard the tree from its insidious and deadly foe, the worm. For this purpose, two examinations of each tree should regularly be made—one in the month of May, and the other in September. Fortunately, the presence of the worm may easily be discovered at or just beneath the surface of the ground, by the oozing of the gum, and, if not duly attended to, will in a short time occasion the destruction of the tree by cutting around the bark, and thus diminishing or totally destroying communication between the tree and its roots. The worm is most speedily and effectually destroyed by scraping and probing them away through the aid of an ordinary oyster-knife, which is usually pointed and formed with a double edge. With such an instrument, a person may go through many hundreds of trees in a day, when the system is regularly attended to as above described, and it will be found that, with such care, but here and there only will a tree be infested and require attention.

As the peach-tree is so generous in its growth, and in its exuberant crops, it is necessarily a great exhauster of the soil, and must have the support of proper manures. It is also essential to its prosperity that the soil should be kept open, and free from grass or weeds. I have found that the cultivation of many kinds of root crops requiring manures and frequent stirring of the soil, such as potatoes, beets, turnips, &c., are quite consistent with the health and vigor of the tree, but that, when the soil becomes bound through a dense growth of grass, which excludes light and air from the roots, it soon dwindles, becomes sickly, takes on the *yellows*, and dies. At the period of *stoning of the fruit*, a large demand for silica is made upon the soil, which must necessarily be dissolved, and conveyed through the roots, trunk, and branches, in a soluble state. It is probable that, along with carbonic acid, some kinds of alkaline manures, such as lime, or a mixture of one-third potash and two-thirds salt, contribute most powerfully to aid the efforts of

the tree in effecting its solution, and, with this view, I have caused a handful or two, according to the size of the tree, to be applied upon the soil, and forked in to the distance of about three or four feet around each one, at the time of the examinations for worms in May and September. A dose of guano, to the same extent, in lieu of the above, is also excellent.

Under this system, which is by no means expensive or burdensome, I am well repaid by regular and large crops of the finest fruit. I have never had a case of the *yellows*, unless, through some oversight, a tree has been neglected at the examinations for worms, and the application of the alkaline manures has been omitted.

In my judgment, this disease is owing entirely to a want of attention or neglect of one of the important points I have adverted to, and when a tree, through neglect, has become affected with the *yellows*, I have in no instance known it to extend to the other trees upon which attention had been duly bestowed.

[*Remarks.*—The foregoing is worthy of minute attention from all who possess a peach-tree; it is the result of experience, attended by as great success as we have ever seen, and may not only be now read, but should be referred to annually. —Ed.]

EFFECTS OF FROST IN THE SAME LOCALITY.

Few things have more perplexed gardeners than the different degree in which the same species of plant has been affected by frost in the same locality. The last two winters have afforded abundant examples of plants destroyed and unharmed in the same garden or village, under what have been thought to be identical circumstances. Many of these cases have appeared to be so little explicable by differences of temperature, that he who would interpret such phenomena has been obliged, in some instances, to assume that different individuals of the same species possess different degrees of vitality, which renders some more able than others to resist a low temperature.

We find in the "*Revue Horticole*" some valuable observations upon this point, by M. Charles Martins, who has very carefully studied as a physicist* the effects of the last two winters at Montpellier. Without denying that the vital power of individuals differs considerably, he has nevertheless sought to explain the phenomena which were presented to him by reference to mere differences in temperature; and we cannot do better than give a concise account of the result of his inquiries.

In the first place he points out the great differences in temperature which are known to occur in places quite contiguous to each other, but which are unsuspected by the ordinary observer. By way of illustration he takes some details supplied by M. Renou from Vendôme in 1852. The valley of Huchingy, about a mile and a half from that place, is 200 yards wide, and bordered by little eminences only 40 yards high. In this place it is always found that the winter temperature, when the wind is in the north, is from 5° to 15° lower than at Vendôme. For instance, Jan. 24, 1852, the temperature at Vendôme was 26°, and at Huchingy at the same hour 21°. Feb. 21, Vendôme 26°, Huchingy 19°. March 4, Vendôme 28½, Huchingy 17½°. Finally, on the 20th of April, while the air of Vendôme was 30°, the thermometer fell at Huchingy to 15°. Such differences, he remarks, are the necessary consequence of the laws of heat, and it

* This word has been lately proposed as the English form of the French word *physicien*, and we willingly adopt it.

would be most surprising if they did not exist. An observer of the weather who should announce his having remarked the same temperature in the centre and environs of a town, on the north and south sides of a hill, in a low place and on a height, would gain little credence from those who understand these subjects. Gardeners are most especially those who should appreciate and provide against such differences.

As an example of their effect, M. MARTINS cites the following instances, which occurred this last spring at Montpellier to the Sweet Bays, Olive trees, and Fig trees. Of these plants some perished while others escaped, and it was here that the effects of aspect and shelter were most conspicuous. In fact, had not the ordinary thermometers shown that the minima of temperature greatly differed, these trees—real living thermometers as sensitive as those of the philosophical instrument maker—would have plainly indicated it.

To begin with the Bay. In a low part of the Botanic Garden, where the temperature was ascertained to have been + 3° on the north side of a wall, and — 1° away from all shelter, the Bays almost all died. But it was different in a part of the garden called the Bosquet de Narcisse, where a swell of the ground raised the surface about six yards; here the Bays suffered little; a few were scorched, but the foliage of most of them remained green. At this place the thermometer did not fall lower than + 6½°. Undoubtedly, in the Bosquet de Narcisse the Bays were sheltered by high Cypresses and great Celtises; but in a neighboring garden they suffered very little, although not at all sheltered. Moreover, in the low part of the garden the Bays died, although they were sheltered. In short, they escaped wherever there was any rise of the ground. Hence it appears that the difference of a few yards in the level affects temperature so much as to produce entirely different effects upon vegetation. M. MARTINS remarked, however, that Bays stronger than the rest escaped the frost in the midst of others that died.

It was the same with the Olive trees. In low places where the thermometer fell to — 1° they perished down to the old limbs. In a place protected from the north by a house they only lost their leaves. In all the district between Montpellier and Nismes the Olive trees of the plain suffered more or less, and had to be cut back, while those on the low hills sustained no injury. None of these hills are above sixty yards high, and many much lower. There was a pair of young Olive trees (*Olivettes*) planted near each other, but with a difference of elevation between them of ten yards only; in one the leaves were all scorched, in the other they were scarcely hurt. Many cases of the same kind were observed in other places. These facts appear to establish a general law that "cold is most injurious in low places where radiation is most intense in consequence of the tranquillity of the air, and least injurious in exposed places where the agitation of the air opposes the effects of radiation."

Fig trees and Pomegranates presented the same general results.

Hence M. MARTINS infers that one of the first duties of a gardener is to make himself acquainted with LOCAL CLIMATES, the differences among which are far greater than is generally imagined. For example, there occur in the Botanical Garden of Montpellier no fewer than four local climates. 1. *The coldest in winter and hottest in summer;* this is the lowest place unsheltered to the north and west, and only protected to the east by some tall trees. 2. A space to the north of this, protected by houses and walls; *it is not so cold, but as hot as the first.* 3. The Botanical arrangement, sheltered on the north by an Orangery and greenhouse, surrounded by trees and buildings, and overlooked on the south-west by the hill du Peyrou; *this is not so cold in winter, but excessively hot in summer.* 4. The Bosquet de Narcisse and other elevated places; *here the climate is more*

equable, less cold in winter, less hot in summer. The mildest place of all is the south slope of a little artificial mound, occupied by evergreen Oaks, Aleppo Pines, Loquats, &c.

These circumstances appear to be deserving of notice, for they show that in addition to the well-known protection afforded by walls and aspects, a very important practical effect is produced by such slight elevations as even a few yards; a point too often very little attended to in forming a garden, and very possibly the cause of some of the apparently conflicting results obtained by those who have recorded the effect of cold upon exotic trees. Most especially are they important as demonstrating the fallacy of thinking that a place is warm in winter because it is low, and cold at the same season because it is high. The defect of M. MARTINS' observations seems to us to consist in his taking no account of the drainage of the places described by him.

OSIERS, AND BASKET MAKING.

SOUTH EDMESTON, August 23, 1856.

MR. JAY SMITH.—DEAR SIR: Being somewhat engaged in the Osier or Basket Willow growing, which looked very sanguine for a profitable business till last spring, I have not yet learned whether it is best to continue the business.

Downing said there were from $3,000,000 to $5,000,000 imported to this country yearly. But the report on "Commerce and Navigation" states only $150,000 yearly. I ask your opinion as to the prospect of a market; whether it will pay to risk much time and money on them?

Yours, sincerely, &c., LEVI A. BEARDSLY.

Otsego County, N. Y.

A friend of ours, near Philadelphia, who has a large willow garden, has more difficulty in deciding which applicant shall have his Osiers than in looking for a market. Our opinion is, that there is no great difficulty in finding a profitable market for them, where the soil and situation are suited to their growth.

We were lately struck with the remark of a foreigner, that "the Americans work too little in winter." It is true of the inhabitants of our Middle and Southern States; at the Eastward, they employ portions of their long evenings in levying contributions upon us in all sorts of shapes, as, for instance, brooms, baskets, and a thousand notions, that are continually draining our pockets, while we are too apt to pass the time thus profitably invested, in idleness or sleep.

For a beginner to "get along," he must have *something to sell;* baskets, made at home at odd hours, will at any time pay for the family groceries, by the labor of a single individual; and, if skill and taste are brought to the business, a great deal more will be earned. Brooms are thus made in private families, from the material raised on the farm. Why are not baskets? They would be much more remunerative, for, notwithstanding the number made, baskets are a dear commodity; they are sold to the grocer, and retailed at a high price.

Our correspondent and others would do well to learn the basket making business, and teach it to the family; he will then have a home market for his growth thrice as profitable as his osiers; it is of no use to raise willows if you cannot manufacture them, and are too far from anybody that can, to make transportation pay.

TERRA-COTTA ORNAMENTS.

WITHIN a few years articles in terra-cotta have come into extensive use for architectural and other ornaments, and this branch of art-manufacture is now carried to great excellence and beauty. The materials used are the finest clays, free from oxide of iron, which are mixed with calcined flints and old crushed pottery, and baked in a temperature but little below fusion. Modern terra-cottas are quite different from the articles known among the ancients under that name, and are much more durable. The beautiful examples above, consist of a water cooler, with decorations in the mediæval style, two hanging baskets, vases, &c. The models are graceful, and the ornaments are applied with excellent taste and effect.

The Staffordshire potteries are among the most interesting localities, in an industrial point of view, in England; Mr. Minton's establishment should be inspected by the American traveller, who will there find much to admire and reflect upon. Why it is that we are still dependent on Europe, and England especially, for all our wares of this kind, is only a question, we presume, of labor; but it is understood that a new attempt is making at the South to obtain independence in this particular.

ALLAMANDA GRANDIFLORA.

When well grown and flowered, this is one of the handsomest of the Allamandas, and it is not very difficult to manage. Let us begin with a young plant in a five-inch pot, bought in spring from the nursery. Such a plant, if in good health, will in general be found to be what is termed pot-bound. The first operation, therefore, under such circumstances, will be to turn it out of the pot, remove the crocks, and carefully to disentangle the roots. If the latter are healthy, give rather a liberal shift—say into an eight-inch pot, using a mixture of one-half good fibry loam, one-quarter peat, and one-quarter leaf-mould, with a little sharp sand. Experience has proved that a soil of this kind, well mixed, and chopped up with the spade (not sifted), on an efficient drainage, suits it perfectly; but if peat cannot be had, then three-quarters loam, and one-quarter leaf-mould and sand, might answer. In both cases, place a layer of some of the most fibry and rough soil over the drainage, with a view to make the latter act perfectly and permanently.

After potting, give a thorough watering, to settle the soil about the roots, and place it in a smart bottom-heat, in a moist stove. When it shows symptoms of breaking, if the plant is weakly or drawn, cut it down to a prominent bud on the ripe wood, or, in the case of a stronger plant, bend it down, in order the better to equalize the flow of the sap, and cause the buds at the bases of the shoots to start simultaneously with those at their tops. Judicious watering and occasional tying will now be all that it will want, until it has filled the pot with roots, and requires a shift, which will probably be some time in June; for it must be remembered that it should not be allowed to blossom the first year. The point to be kept in view is, to have a good, strong plant furnished in autumn with well-ripened wood, from which abundance of bright yellow flowers may be expected the following season.

About the beginning or middle of June, if all has gone on well, it will be found to have filled its pots with fine, healthy roots, and should be shifted into an eleven-inch pot, using the same compost as before. After shifting, continue the generous growing treatment already recommended, until the end of autumn is approached, when water should be gradually withheld, and all the light and air that is possible given to it, to ripen the wood well, an important point in the culture of all plants, but more especially so in that of the Allamanda. Keep it all but dry during the gloomy months of early winter, and about the middle of February start it into growth. Prune the unripe tops off the old wood; and if a large and fine specimen is desired, shift it when it begins to break, and plunge it again into bottom-heat. Train the branches well out on a barrel-shaped trellis, which may consist of seven or eight nice hazel rods, of sufficient length, placed in the soil immediately inside the pot, fastened to a hoop about their middle, and then to a smaller hoop at their top. Bend the shoots of the plant round this, so as to cover it regularly; and when the young branches have begun to grow freely, train the strongest of them near the bottom of the trellis, so as to have your plant regularly covered with flowers, which it will be by the middle of July, if the foregoing directions have been carefully carried out.

In the third and fourth years it will flower earlier and better than in the second, and it will not require to be shifted; but it should be fed occasionally with clear liquid manure water, to keep it healthy and vigorous, without being over-luxuriant. By liquid manure, I mean clear, weak dung-water from the stable-yard.—*Alpha, in Gardeners' Chronicle.*

THE STEAM-ENGINE IN AGRICULTURE AND HORTICULTURE.

A PERIOD has just gone by us, in which what is called "famine prices" have been paid by the rich and the poor; our great cities have actually suffered from want; at one time, it was difficult to procure, for a large sum, a bushel of potatoes in the great city of Philadelphia, and we can testify it was eminently so in its outskirts. Why is this? Are so many people getting rich and lazy? Very probably! Have we so many non-producers? Yes! But may we not look to other causes also? Is not irrigation a neglected source of wealth? and, if so, what is the process by which we are to arrive at a remedy. We answer, without hesitation, the steam-engine must now step in and relieve us from our incubus. Just as we were pondering on this subject, we saw an advertisement in the *Horticulturist* of Harlan and Hollingsworth, of Wilmington, Delaware, of the very thing wanted, and then came another advertisement from Zanesville, Ohio, and a short letter from a gentleman who seems to have studied the subject, which contains so much good sense respecting the use of steam in agriculture and horticulture, that we adopt it. Steam has long wafted us on river and ocean, but it has but lately found its way to the farm, *on wheels*. Honor be to the man who thus mounted it, and sent it round, like a good physician, to visit its patients and

"Cure their ills
With constant rills."

Our correspondent shall tell the uses of a *pedestrian* steam-engine.

"The point is nearly reached, in the wonderful development of our country, when steam must be called in requisition to do very much labor heretofore done by human muscles, cattle, and horses, and to do much more, which their instrumentalities have never undertaken, but which the point reached in our progress renders necessary. In this, the horticulturist, whether commercial or amateur, as well as the agriculturist, has a deep interest.

"I will, in a suggestive way, point out a few of the various ends which steam must be called upon to subserve.

"The nearly steady annual decrease of rain during the summer and fall months, is, I believe, an admitted fact, and the train of consequences following these protracted droughts are beginning to attract serious attention, as the supposed causes are steadily going forward, with an increase proportionate to the increasing density of population. The fact is, that the water retires into deep, subterranean caverns, and artificial aid must be called into requisition to remedy this, as far as may be, and to elevate it again to the surface, where it will partially compensate for the long withheld showers of rain. This the steam-engine must do in the great majority of cases, if done at all. Cities and villages have artificial supplies of water, and why not the florist, horticulturist, and farmer?

"Again, the professional florist needs artificial heat during our protracted winters. Farmers, owing to the advanced price of grain and stock, will find it to their interest to substitute steam for many purposes, where admissible, for human, horse, and cattle labor, in threshing, cutting, crushing, and cooking feed, wood, &c. Having thus glanced at the utility, economy, as well as the necessity for the employment of steam in the more common affairs of life, the next inquiry will naturally be, has the steam-engine been simplified and cheapened, so as to fit and qualify it for these new uses? The answer is, that it has, to a very great extent, at least—sufficiently to answer present requisitions.

"The engravings attached to two advertisements inserted in this number, will give an idea of improvements in the portable steam-engine, which are a long step in advance of all that have preceded them in simplicity, durability, and cheapness. The novelty of the design, in Blandy's engine, is apparent to any persons who have examined other attainments in steam-engine building, either portable or movable.

"The fire-box is of good size, and adapted to any kind of fuel, or mixed fuel, and, from its peculiar shape, is nearly self-supporting, and having no crown bars, and very few stay bolts. This is not its greatest novelty or superiority, for this is in the bed-plate, which is a hollow column, having legs cast on it for its own attachment to the boiler, and seats for all the working parts of the engine, all of which are arranged in a straight line. The inside of this tubular bed-plate, is used to heat the supply of water before going into the boiler, by the waste steam.

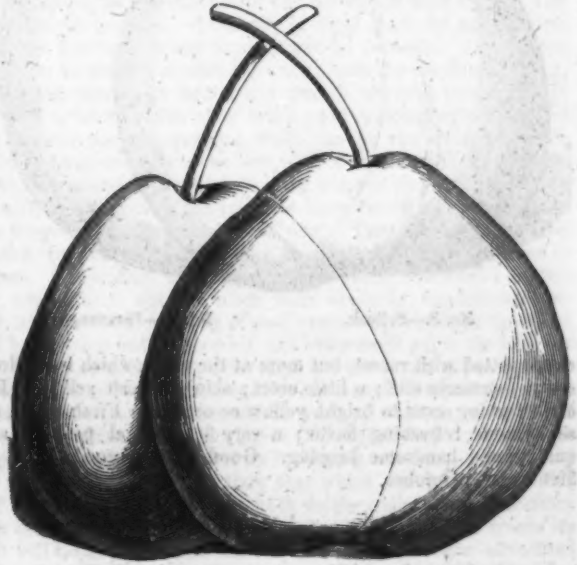
"Its whole arrangement is as compact and artistic as a lever watch, and almost any size up to fifty-horse power can be moved on an ordinary, stout, farm wagon, and occupy not so much space as a common buggy or carriage. The exceeding simplicity enables any person, with a day's teaching, to run it safely and successfully."

Further particulars may be found by reference to the cards of the inventors and builders, in the advertising department, as well for the Ohio engine as for that of Harlan and Hollingsworth, to both of which we desire to call attention.

NEW PEARS.

No. 1. CHURCH PEAR.—A seedling from New Rochelle, N. Y., medium size; stem, about one inch; skin, bright green, turning to yellow green in the process of ripening, spotted and marbled with hazel russet, which russet always surrounds the cavity. Calyx closed, basin medium, segments little apparent. Flesh buttery, very juicy and melting; sweet, aromatic, best. Ripens slowly from 15th July to first week in August; keeps well and long when ripe without rot at the core. In my opinion one of the best. —B.

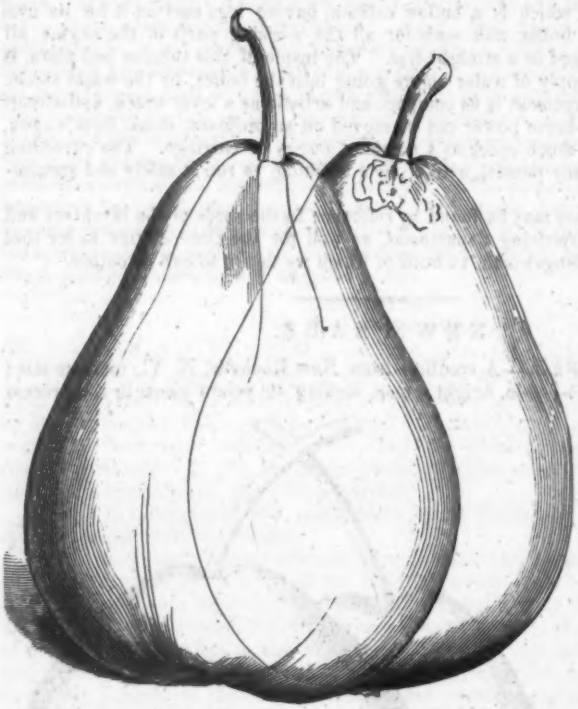
No. 2. HUNTINGDON PEAR.—Another New Rochelle seedling; medium size or below medium, with



No. 1.—Church. No. 2.—Huntingdon.

a rather slender and long stem, in a moderately deep, broad and uneven cavity. Eye closed in an abrupt basin, dotted with a few russet circles. Skin green, often colored around the basin and upwards with a crimson tinge. Flesh melting, very juicy, buttery, with a peculiar, very delicate flavor. Ripens well (middle or latter half of September); a very good pear.

No. 3. SELLECK (*from Vermont*).—Large handsome fruit. Skin green, turning over to bright yellow (the color of the Bartlett), when ripening; which it does slowly and without decaying at the core. The surface of the fruit is uneven, ribbed and knobbed. It has the flavor of the Bartlett, its juice and its melting flesh, with a great deal more sugar and relish. A superior fruit, in my opinion, if it succeeds as well south as in its native latitude. Ripe end of September and commencement of October. —B.



No. 3.—Selleck. No. 4.—Parsonage.

No. 4. PARSONAGE. — Another chance seedling of New Rochelle. Stem half inch or three-quarters long, stout, sometimes a little inclined, slightly sunk, with a very distinct russet cap around the shallow cavity. All over spotted with russet, but more at the basin, which is shallow and broad. Eye open; segments stiff; a little erect; skin greenish yellow. Keeps long and fair after turning over to bright yellow or orange. Flesh white, melting, juicy, subacid-vinous, refreshing flavor; a very fine market pear on account of its size, quality, and handsome keeping. Good, or very good. End of September and first week in October.

MANAGEMENT OF LAWNS.

In all well-kept garden establishments, lawns not only form the principal features, but they occupy the larger portion of time and manual labor. Whatever is calculated to lessen this, or to make it more effective, is of the highest importance to the gardener. We remember well reading a report of the transactions for the year of the Sheffield Botanical Gardens, which had been, in some measure, starved for want of public support, and rendered very unsatisfactory to the curator, through the extremely limited means at his command. The shareholders were congratulated on the improved appearance of the gardens, in consequence of adopting a mowing machine instead of ordinary mowing. The improvement was manifest in the state of the gardens, and the saving was palpable in the accounts themselves. The only objection to the use of the machine, so far as we have heard, was that, if there were any hollows in the lawn, the work was not done complete; but this only applies to such hollows as would also baffle all attempts to do justice with a scythe, because the machine will work up and down hill, and on the side of a hill, as well as on level ground. It will follow in and out of all hollows large enough to take a roller, and everybody must know that inequalities that cannot be rolled, cannot be kept in order at all. Ruts like those made with cart-wheels, and holes that the roller would pass over, can never be mowed clean with the smallest scythe. The very first step to be taken towards getting a lawn in good order, is to destroy all such inequalities, either by raising the turf, or filling them in. Undulations are not only allowable, but, if well managed, are beautiful; but holes and ruts are altogether inadmissible. If lawns have been long neglected, they will have become rough and lumpy. The coarse grasses will have grown strong, and spread at the expense of the better and finer sorts. The whole must be cut as close as possible. This will at once show the inequalities, and if it be very bad, the first trouble and expense will be the least. Cut all the turf well, and roll it up to be stacked outside the work; have the whole space dug, levelled, and rolled, lay the turf down again, and beat it all over properly. It may then be rolled with a heavy roller after every good wetting with rain, and as soon as it begins to grow use the machine, which can be run over the whole space even before it is long enough to be cut with a scythe. If any of the noxious weeds should be inclined to grow again, take a spade and dig them fairly out. This will be easily done, because the root has been cut off at the thickness of the turf, and was turned when the ground was dug. True, it will leave holes in the turf, but it must be done, if it takes days to do it. The first expense in this matter is the least. Presuming, then, that all those weeds which spoil a lawn, if allowed to grow, are scooped out (we mean such as docks, dandelions, sow-thistles, sorrel, &c.), let there be a dressing of road sand, with which all the holes will be filled up level by common bush harrowing, and every mark left in the joinings of the turf obliterated. As soon as there is the least growth in the grass, let it be heavily rolled one day and mowed the next, and, by these means, a coarse, uneven meadow, to say nothing of a neglected lawn, will be made all that can be wished of a dressed ground. But machine mowing, while it takes much less time, requires to be done regularly, and after the new lawn, as it were, is once properly levelled and established, no more rolling is wanted than that which the instrument itself gives at the time of mowing, for it is in itself both scythe and roller. Incessant cutting would make almost any coarse lawn smooth in time, but by the means we have pointed out, it will be good the first season. Although we have advocated the machine, which may be had, to cut and roll sixteen inches wide, for about five

pounds ten shillings, and, up to twenty-five inches wide, for nine pounds, to be drawn by a donkey or pony, we are not disposed to quarrel with those who use the scythe, because it is the pride of some men; and no small merit, to mow clean enough to show no mark of the instrument. A sprinkling of wood ashes is of great service in preventing the growth of moss, and encouraging the growth of the finer grasses, which contribute to the beauty of the lawn. In the season when grass grows rapidly, the lawn should never go more than a week without mowing, and now comes machine *versus* scythe. The former can be used when the grass is dry, the latter only when it is damp or wet; the former can be used all day in hot weather, and we know that the latter can only be used an hour or two in the morning; the former collects the grass as it is cut, the latter leaves it on the ground, and it is of the highest importance that it be removed immediately, for, if it remains, it discolors and injures the grass; the machine can be used when only half an inch of grass has to be cut; the scythe can hardly make an impression until the lawn has got rough; in the one case, it is scarcely free of the marks before it is wanting another cutting; in the other case, the lawn is always alike, because the machine leaves no marks, and may run over it in a short time, as often as we please. If the grass is apt to get brown during the hottest weather, anticipate the change in time, and water it with diluted ammoniacal liquor or liquid manure, but be prepared to cut it soon after, for the growth will be rapid. In any extent of lawn a water cart is the best, but next to that a garden engine, for it must be wetted all over, and hand-watering is too laborious. It may be observed that all this involves too much trouble, and requires too much labor, but you have the choice of evils, either the lawn must get brown, or you must incur the cost of keeping it green. This is, however, an extreme case, and not one place in a hundred, if it be properly drained, will require it. Most of the lawns which burn in summer are too near the clay or gravel, for they both have the same effect. A good spit of earth between the grass and either of them, will generally keep green, but not always. If clay, the only cure is draining. If gravel, you must use liquid manure, or ammoniacal water—which has the same effect—to preserve the grass in color and health. The edges of the lawn must be clipped close to the proper outline, until it spreads unequally, when the edging-knife must be resorted to.

[The above, from the *Midland Florist* (England), applies with equal force to this country, and to the use of Swift's Lawn Mower.—Ed.]

HINTS FOR YOUNG GARDENERS.

FROM THE FRAUENDORFER BLATTER.

Cultivate nothing carelessly. Whatever is worth cultivating at all, is worth cultivating diligently and well.

Many kinds of garden seeds lose their germinating power when more than a year old. Therefore, be careful to sow fresh seed whenever practicable.

But melons, cucumbers, pumpkins, and members generally of this family, are an exception to this rule. The seeds of these should not be sown till after they are several years old. Plants from old seeds produce less foliage, and more fruit. [Doubtful, *Ed.*]

The seeds of most kinds of weeds retain their germinating power for an almost indefinite period. Hence, weeds should always be carefully gathered and burnt, as the most effectual mode of destroying the seeds.

The first leaves which appear on the surface (in many cases called *cotyledons*),

are, for the time, the sole supporters of the life of the young plant. They sustain it till it has formed roots, and, if prematurely destroyed, or much injured, the plant will die.

Seeds will not germinate unless exposed to the influence of moisture, air, light, and heat. They should, consequently, not be covered too deep, or they may fail to sprout.

It is, in ordinary cases, not profitable or advisable to raise your own seeds. Your soil and your time should be of more value and importance to you than the cost of new seeds. Besides, such as is raised on a soil different in composition from your own, will most probably thrive better.

The roots of very young plants are rarely hardy enough to bear transplanting well. The best time for transplanting seedlings, is when they have formed five or six leaves; because, at about that period the young roots and radicles are able to perform their proper functions more successfully than earlier.

Roots essentially require the admission and presence of atmospheric air. The surface soil should, therefore, always be kept loose and porous, and clayey ground should be frequently broken up or stirred in dry weather, or whenever it has become parched or baked.

When a bed has been dug over in the fall, it should be suffered to lie, during the winter, in the roughest condition in which the spade has left it. A greater amount of surface will thus be exposed to the effects of frost, and the ground become more thoroughly pulverized in the spring.

Frost acts with greater severity on roots or tubers which have been pulled or dug up, than on such as remain in the ground. Hence they should either be effectually protected, or remain altogether undisturbed.

The various kinds of plants extract different substances from the soil; and a well-chosen rotation of crops is consequently highly advantageous, and deserves attention.

Leaves absorb moisture from the atmosphere, and again part with it; they inhale and exhale air, and thus constitute the more important organs of plants. If injured or removed, the entire plant suffers accordingly.

The pores of the leaves, through which air and moisture are transpired, are exceedingly minute, and very liable to be closed by dust. The foliage of stove plants should therefore be frequently well sprinkled with pure water, to prevent or remove obstruction to healthy action from this cause.

In their natural condition or growth, the leaves and branches of plants rarely touch or cross each other. We should hence learn not to crowd our plants close together, or to place even a single plant in a confined position, where its leaves and branches have not room to expand or develop themselves fully and freely. Air and light are as essential to their vigorous and healthy growth as earth and water.

The falling off of the leaf of a newly-set cutting, is an indication that the cutting has begun to grow. But, if the leaf wither and dry without dropping from the stem, it is an evidence that the plant lacks vigor to effect the natural process of shedding the leaf, and will probably fail to grow.

When bushy plants produce an abundance of foliage with few buds or blossoms, they should either be transplanted into a poorer soil, or some of the principal roots should be pruned off.

Drying winds are injurious, as they rob the leaves of plants of moisture more rapidly than it can be supplied by the roots. Plants need as careful protection from such winds as from frost.

When a grass-plot becomes pervaded by moss, apply some fine, rich manure to

the surface. This will reinvigorate the grass, and enable it to subdue and expel the intruder.

In pruning, always make the cut *towards* yourself. Enter the knife on the side opposite the bud, a little above its base, and cut through, sloping to just above the top of the bud. The vitality of the terminal wood will thus be preserved, and the wound speedily heal over.

Leaves grown in the shade, or in the dark, do not attain the depth of color, nor the harshness of taste which mark such as are fully exposed to light and air. Gardeners take advantage of this when tying up lettuce or endive, and earthing up celery, to *blanch* them.

Light is essential to enable flowers to develop their colors fully. Hence the proper place for flowering plants, in chamber culture, is as near the window as possible.

All plants have naturally a resting season. Seek to ascertain the period peculiar to each particular species you cultivate, and transplant them only at that time.

Plants are in their most vigorous state of growth at the time of flowering, and should not then be transplanted, as they would very likely suffer much from the operation.

But the period of flowering is much the most suitable for making cuttings, because the tendency to root formation is then most active.

Plants in flower have all their juices in the most perfect state; and this period should be chosen to gather such as are noted for aromatic or medicinal qualities.

Excessive blooming greatly exhausts the plant. Hence, all flower-buds should be gently pinched off ere they open, from newly-rooted cuttings as well as from weak or sickly plants, to preserve the strength of the stalk.

Few plants can well endure sudden great changes of temperature; and none should therefore be transferred directly from the hotbed, or hothouse, to the open air. Warm weather should be chosen for the removal of plants, even from an orangery or cold frame, to the garden.

All withered and faded flowers should at once be removed from perennial plants, unless it is desired to raise seed. This will tend greatly to prevent the premature exhaustion of the plant.

To secure a succession of bloom in a rose-bush, prune back some of the shoots to their eyes as soon as you see that they begin to swell; and defer the pruning of others till the leaves have become expanded. In the first case, the eyes will break into bloom early, whilst the latter will not begin to swell till the others are in full leaf, and consequently bloom later.

By properly checking the growth of a plant, you can increase the vigor of the leaves and the size of the fruit. With this view, gardeners pinch off certain sprouts in beans, melons, cucumber vines, and similar vegetables. The entire art of pruning, so far as it has any real value or importance, is based on this principle.

As a general rule, the smaller the number of fruits on a healthy, vigorous plant or tree, the larger the size, and the more perfect the taste. It is hence proper, in all cases, to *thin out* moderately. But a single gooseberry left on a bush, or a single cluster on a large grape-vine, however *monstrous* be its development, is only evidence of a sound principle misapplied or carried to extremes.

Fruit should always be gathered in dry, calm, weather. It should be removed by hand, and carefully placed in a basket, so as not to bruise it. Roughly handling it may, and probably will, cause it to rot.

If, when any of my fruit-trees are in blossom, I suspect that the soil does not contain the requisite amount of moisture needed by the roots, I dig a trench around the tree about eighteen inches from the stem, and pour into it four large

bucketsful of water, and immediately return the removed ground. This enables the blossoms to resist the effects of drying winds; the fruits *set* perfectly, develop rapidly, and are less liable to the attacks of insects. The result is, that the fruit does not subsequently drop. I have cherry-trees that formerly bore fruit only every alternate year, which are now annual and abundant bearers, in consequence of this treatment. C. V. GOLDACKER.

According to the researches of Messrs. Schübler and Kohler, of Tubingen, white flowers are the most numerous in nature, and, at the same time, the most fragrant. Red flowers come next in order.

NOTES FROM THE MOUNTAINS OF NORTH CAROLINA.

BY WM. BEAL, CHEROKEE, N. C.

DEAR HORTICULTURIST: Knowing that you feel an interest as well as many of your readers, in all that is lovely to the eyes, pleasant to the senses, and refreshing to the various wants of man, I hasten to try to bring some of our sweets and beauties to your notice, although in a rough and rude manner. We have a difference of climate in this county (Cherokee) of one month in the spring, so that, when I left peas in bloom at Murphy, on the 10th of April, I found snow on the mountains, in many places to the depth of from two to three feet; and, on the 12th of April, in some sheltered coves, I found the Claytonia Virginica just opening its blossoms to cheer the eye of man.

The scenery in the mountains is grand and picturesque, combining many of the features of Switzerland, with a summer climate as beautiful as that of Italy, and occupying a neutral ground, both mountains and valleys, between the malaria and fevers of the South, and the consumption and rheumatism of the North—a climate where the lowest extreme of last winter failed to sink the mercury more than three degrees below zero, and the extreme heat of the summer does not often exceed 96°, and where, when our railroads are completed, the citizens of Cincinnati and New Orleans can meet the citizens of Charleston, and enjoy a picnic, and almost return home the same day. This section of country is yet quite new, and the forests are as yet unbroken for many miles in extent, affording a safe retreat for the panther, bear, wolf, and deer, which as yet furnish meat for the few red men that remain among us, and the adventurous hunter or squatter. The flora of this section has as yet been almost entirely neglected, and I find many rare plants, some of which are entirely new to me. The Kalmia latifolia is now (June 10) in full bloom, and, in one place, the side of the mountain is a complete mass of the bloom of McDowell's Rhododendron, but it will be still more beautiful in a week more. The ferns and lichens embrace quite a variety, some of which are entirely new, or undescribed by botanists, so that here a wide field is open for investigation. There is here, in the mountains, a variety of blackberry, which, I think, will rival the New Rochelle, or any other known variety. It is quite thornless, and is now just in bloom; the canes are strong growers, and very productive when the cattle do not eat them up, which they are quite apt to when they can get at them. The fruit I have not seen, but am told that it varies from one and a half to two inches in length, and one inch in diameter; seeds quite small in large pulp, and very sweet; so that it will be a good acquisition to all of our gardens.

We have also a variety of red raspberry that is new to me, and, in some respects, resembles what is called thimbleberry in Northeastern New York and Canada, but differs from it in the form and color of the fruit. The canes are large, and branching flowers of a pinkish color, but not very profuse, and the bark has a ropish

appearance; fruit, light red, and very large, frequently an inch, or an inch and a quarter in diameter, and very delicious.

Strawberries have been quite plentiful; they commenced ripening about the first of May, and continued with us about three weeks; we as yet have none of the cultivated varieties amongst us, but they will succeed, and this section will eventually compete in the markets of Charleston and Cincinnati, in almost every variety of fruit. The cold of last winter has not affected our fruit crop in the least, injuriously, and now our peach and apple-trees are groaning beneath their growing loads of fruit.

We have some good collections of apples, thanks to the exertions of Mr. McDowel and others, but the field of pear culture is, in this county, untried, and a few of us are uniting to try some varieties of pear on quince as well as standards; also cherries and plums. And we would consider it quite a favor if you would recommend a half-dozen of each that would be suitable for our climate, including dwarfs and standards. We have a large variety of wild grapes, some of which, I think, will prove worthy of cultivation, especially one variety of white summer grape, which, however, is quite scarce. As regards the size of grape-vines, we can compete with almost any place, as one, that is known as the big grape-vine, measures three feet in circumference, and spreads majestically over a number of the giants of the forest, binding their crowns together in one luxuriant mass of foliage.

ON THE GENUS CORREA.

BY EDGAR SANDERS, ALBANY, N. Y.

It is worth inquiring, whether the great demand for cut flowers in winter, in this country, does not cause a too exclusive selection of plants for that end alone, thereby often losing the great beauty of others, because not so well adapted for that purpose. So long as cut flowers are in demand, the gardener, however fond he may be of plants themselves, must use means best calculated to obtain them; but there are few places so close run to supply the demand, that a few plants may not be cultivated to advantage, sacred from the murderous knife, and much to the general appearance of the house.

Plants grown wholly with this idea, should be of the most faultless growth and shape, and placed in the most conspicuous parts of the house as *starers*. Two or three distinct kinds of the charming New Holland genus Correa, are admirably adapted for this purpose, being in flower for the greater part of the time they will occupy the greenhouse, and at their greatest perfection in mid-winter. Under good management, they are exceedingly quick growing plants, especially a variety called *Lindleyana*, forming, in twelve months, respectable sized flowering plants, and, in two years, good-sized specimens. The quality of the flowers of this genus, under the hand of the florist, has greatly improved, and there are quite a large number of varieties in cultivation. *Harrisii*, though raised many years ago, is still a good one; this, and the one named above, and the old *speciosa*, is enough for small collections. It is quite common for nurserymen to work the good kinds on *alba*, but they seldom make fine plants, and often grow very slow—a plant from a cutting, even if very small, growing more in one summer than a worked one will in several.

The flowers are drooping, and require to be tolerably close to the eye to be seen effectually; hence, a bush inclining to a pyramidal shape, is to be preferred. Small trees or standards would look well, but it will take a good long time to

get them any size on their own roots, as none of the showy kinds swell to any size in the stem.

Propagation and Culture.—Most of the kinds grow freely enough from cuttings placed in sand, under a bell-glass or miniature-frame, if taken off soon after they have done flowering, or, indeed, at any time after January, providing a slight heat above that of the greenhouse can be given them. But, as nice little plants can be got for two or three shillings each, time is saved by buying them. For the first year, we prefer to plant them out in the open soil, as such small plants, except proper pits or very low houses are at hand, have their growth checked so much by the constant dry and wet, wet and dry process inseparable when in such small pots. Another thing, too, is, that small plants, when in pots, have to be shaded in summer, which is detrimental to the health of most all hard-wooded plants. When planted out, the growth is at least double that of those in pots, however well they may be attended, besides being hardly any trouble, further than occasional waterings, and stopping the young shoots. A one or two light frame, prepared and filled every summer with various little hard-wooded plants, in this way, would always keep the place supplied with a new stock, to replace those lost by accident or other causes. The main thing to attend to in preparing the soil, is to have enough of vegetable soil (that from the woods is to be preferred), and a good turfy loam, about equal parts of each, and at least a sixth of white sand and charcoal well incorporated with it. This will grow this plant well, whether out or in pot. The surface of the bed should not be above that of the surrounding ground, and lights should be in readiness to put over them in case of very heavy rains. In the fall, as the roots will have spread somewhat, a little care is necessary in taking them up, to break them as little as possible, although it is unnecessary to lift too much of a ball with them, trusting rather to search for fibres; sufficient ball should be secured, if possible, to nearly fill the pot experience will point out the plant should occupy. They will require no more potting till spring, and, flowering over, they should be then cut in pretty close to the desired shape, and, about the 20th of May, repotted into two sizes larger pot, and plunged in the open ground for the summer. A few of the shoots likely to grow wild, will occasionally want stopping, otherwise nothing farther is to be done till housed.

The only deviation to be observed each succeeding spring after cutting back, is, when broken again, to reduce the ball an inch or two, and repot into one or two sizes larger pot. This genus is not liable to get sunstruck in summer, and will last many years.

COLONEL WILDER'S ADDRESS,

Before the American Pomological Society, at its fourth session at Rochester, in September, is an example of how much may be said in a few words. An early copy enables us to make extracts from the more striking portions.

The President alludes to the fact that it is now only about a quarter of a century since the establishment of the oldest horticultural society in America; then the fruit crop of the country was not deemed worthy of a place in our national statistics; now it exceeds thirty millions of dollars annually; then the sales of fruit-trees were numbered by hundreds, now by hundreds of thousands.

Mr. Wilder's remarks on seedlings, &c.:—

"When Van Mons, the patient and skilful observer, was successfully experimenting in Europe, our Coxe, Prince, Lowell, Dearborn, Manning, and others, had commenced their course, and obtained some good results. Then most of our pears were propagated on suckers

taken from the forest; now we see millions of young vigorous trees cultivated, sold, and planted, in all parts of the Union, and where twenty years since not a single specimen of the Pyrus was to be found. The public no longer ridicule the man who plants a tree with the hope of gathering its fruit with his own hands, or the saving of seeds to improve the quality of his fruits. True, Van Mons was ridiculed all his life, and only appreciated by such pioneers as Davy, Poiteau, Diel, and Drapiez. His nurseries were thrice destroyed, as wild, worthless thorn-bushes, under the false pretence of "public utility." This was an irreparable loss, for however much his system be discussed and distrusted, it is still true that the results of his experience have been most beneficial to the world.

"An honorable member of this Association and myself, have in trust many of the seedlings of that great master of pomology, which have not yet fruited. We have those of the eighth generation, which, from vigor, beauty, and signs of refinement, give promise of superior character, and seem to confirm his doctrine of improvement by successive reproduction. And while we are anxiously awaiting the further and ultimate results of his theory, others on this side of the Atlantic are zealously engaged in hybridization and experiments which cannot fail to be of immense advantage to the scientific and practical cultivator.

"This progress should cheer us onward. No other country, in extent and variety of soil and climate, is so well adapted, or offers so great advantages to the pomologist. Not only does our correspondence from abroad testify to the truth of this statement, but our rapidly extending domain continually develops new facts in confirmation of this sentiment.

"By the reports from individual fruit growers, and from associations, it appears that some varieties of the pear succeed equally as well in the extreme south part of our Union as in the north. A gentleman from Oregon Territory recently informed me that settlers there had already provided themselves with extensive orchards, and from which they gather fruits of great size and excellence. He also makes a similar report in relation to Washington Territory, and instances among others an orchard of one hundred acres, which is now yielding a large annual income to its proprietor.

"A letter from the Vice-President of this Society for Utah, on the borders of the Great Salt Lake, expresses the hope that it will not be long before that region shall be a successful rival of other parts of the Union in variety and excellence of its fruits. Similar accounts are received from the district of Santa Clara.

"Another communication, from an officer of this Society in California, assures me of the great progress in our cause in that State, and pledges a full report of its horticultural exhibition for our *Transactions*. One of my neighbors who went to California in 1854, and now residing in Napa City, writes: 'Such is the rapid growth of vegetation in that district, that apple-trees, from seed planted in the spring of 1853, and budded the same year, yielded fruit in the autumn of 1855.' He says: 'I wish you could take a look at our peach orchard, loaded with three to four thousand baskets of fruit. You could hardly believe that the trees had made all their growth, and were most of them raised from seed, since I came to California, February 1, 1854. The crop from this orchard is now (July 18, 1856) going to market, and, we expect, will amount to between ten and twenty thousand dollars.' The proprietor of that crop has called on me within a few days, confirms these statements, and reports that the crop and prices fully realized all anticipations.

"Such is the zeal now manifested in the cause of pomology, and such are the facilities for intercommunication, that we are continually receiving valuable contributions from all parts of the country and the world."

Proceeding onward, gracefully, the President says:—

"In my last address, I called your attention to the importance of raising new and improved varieties from seed as the best method of increasing and preserving our supply of choice fruits. Whether the theory of the running out of varieties be true or false, so thoroughly am I convinced of the great practical utility of this recommendation, that I feel especially desirous, while I have the opportunity, of encouraging you to perseverance, and of guarding your minds against exposure to failures.

"A false doctrine prevails among some, although founded on the theory of Van Mons, '*that scions taken from seedlings, and grafted into stocks, however strong and healthy, will not yield fruit earlier than it may be obtained from the mother plant.*' Adopting this theory as true, many cultivators have been discouraged on account of the length of the process. Whatever may have been the experience which called forth this theory from its learned author, in the localities where it originated, or where it has been advocated, my reading and personal observation constrain me to question its truthfulness; certainly its application to our own country. For instance, the fact is familiar to you all, that scions of the pear come into

bearing, when grafted on the quince, earlier than on the pear stock. This is believed to result from the early maturity of the quince, which, while it does not change the variety of the pear, imparts its own precocity thereto. We realize a corresponding hastening to maturity when the scion is grafted into a pear-tree which has also arrived at maturity; especially is this to be expected when the stock is in itself one of a precocious character. If any facts seem to oppose this doctrine, they may be regarded either as exceptions to the general law, or as the results of locality and cultivation.

"The physiological principle of the vegetable kingdom under which this doctrine obtains is, that the bud contains the embryo tree, and that the strong or precocious stock constrains it to elaborate more material into wood and foliage, and thus promotes both growth and fruitfulness.

"Common sense as well as common observation, confirms this statement. Witness the pear, which we have known to fruit the fourth year from seed, when grafted on the quince. We know a seedling from the Seckel pear, grafted on the Bartlett, which bore the present season, and is only four years from the seed. The Catharine Gardette, raised by Dr. Brinkle, was brought into bearing by grafting on the quince in five years, while the original seedlings, in all these instances, are only three to five feet in height, and will require several additional years to bring them into bearing. Is it reasonable to suppose that a seedling pear, which, in two years, in a given location, attains the height of one or two feet, with but few branches, will fruit as early as a scion from the same seedling when grafted on a strong tree, which elaborates and assimilates through its abundant branches and luxuriant foliage, ten times the amount of all the elements constituting growth and maturity?"

He continues:—

"In reliance upon natural fertilization, I would still encourage the continual planting of the seeds of choice varieties of all kinds of fruit, in the belief that new and valuable varieties may thus be obtained. By these various processes, we shall have continual accessions to our collections of such choice fruits as the Beurré Clairgeau, Beurré d'Anjou, and Doyenné Boussock pears. Let nothing discourage you in this most hopeful department of pomology. Go on, persevere.

"These are triumphs worthy of the highest ambition, conquests which leave no wound on the heart of memory, no stain on the wing of time. He who only adds one really valuable variety to our list of fruits, is a public benefactor. I had rather be the man who planted that umbrageous tree, from whose bending branches future generations shall pluck the luscious fruit, when I am sleeping beneath the clods of the valley, than he who has conquered armies. I would prefer the honor of introducing the Baldwin Apple, the Seckel Pear, Hovey's Seedling Strawberry—ay, or the Black Tartarian Cherry, from the Crimea, to the proudest victory which has been won upon that blood-stained soil."

We anticipated from the speaker, that he would give in this speech the results of his latest experience in keeping fruit, and the construction of fruit-rooms, and are not disappointed. He says:—

"The proper construction and management of these is, therefore, commanding the attention of pomologists, both in this country and in Europe. Their success is found to depend on a perfect control of the temperature, moisture, and light. After having built and managed four fruit-rooms, upon different plans, I am of opinion that a proper equilibrium of temperature and moisture cannot ordinarily be obtained without the use of ice. The preservation of the apple is less difficult than that of most other fruits, and is tolerably well understood by our farmers. Still, how few specimens, even of this fruit, are brought to our spring market in a fresh and perfect condition! The art of keeping the pear, and fruits of delicate texture, is much more difficult; and it is to these I particularly refer.

"Having heard of the great success of Mr. Schooley, of Cincinnati, Ohio, by his celebrated discovery for the preservation of meats, I opened a correspondence with him with respect to the application of the same process to the preservation of fruits. He subsequently visited me at Boston, and advised as to the construction of a fruit-room upon his principle. This I have found, during the last winter and the present summer, to operate in accordance with his statement, as illustrated by Professor Locke, in his 'Monograph upon the Preservation of Organic Substances.' By his plan, the temperature and moisture of the fruit-room, and consequently the ripening of the fruit, may be perfectly controlled. One gentleman informs me that he kept strawberries, in a fruit-room constructed on this plan, from June 1 to the 20th, in perfect condition for the table; and he entertains no doubt of its complete success in the preservation of apples and pears indefinitely. Mr. Schooley writes me that, in the

month of June, he received several barrels of Bellflower apples, which had been kept for eight months, that were sold in that market at two dollars and twenty-five cents per bushel. The remainder out of eight hundred bushels was sold, at home, at three dollars per bushel. These apples were purchased, at random, from the strolling wagons passing through the streets of Dayton, and were more or less bruised by careless picking and transportation. My own experience corresponds with these statements.

"The construction of these rooms is simple. All that is required is walls made of non-conducting materials, with an apartment for the ice above the fruit-room, and with Mr. Schooley's descending flues for the cold air, so as to preserve an equable temperature and moisture, and to hold the ripening process in suspense. The air, by passing over the ice, is deprived of its moisture, and, being cold and specifically heavier than the surrounding atmosphere, falls through his descending flues, and, by a ventilator, escapes on one side of the room, thus creating a temperature not only cool, but dry. This principle, I am informed by a distinguished member of the medical faculty, may be applied to the construction of hospitals with great advantage, so that the air may be kept at a uniform temperature and degree of humidity. For a more particular account of this process, I refer you to Professor Locke's *Monograph*, and to the inventor's letter, herewith submitted.

"In these remarks, our object has been to provide against the maturing of fruits until the season when they are wanted for use. Care should, however, be exercised, especially with the pear, and more delicate fruits, not to reduce the temperature much below 45° of Fahrenheit, lest the vital principle of the fruit be destroyed, and the flavor lost."

Colonel Wilder differs somewhat from Jeffreys, in our last number, regarding the value of the pear as a dwarf, and, as we desire nothing but the truth, we give his views on the subject:—

"Pears upon the quince should be planted in a luxuriant, deep soil, and be abundantly supplied with nutriment and good cultivation. They should always be planted deep enough to cover the place where they were grafted, so that the point of junction may be three or four inches below the surface. The pear will then frequently form roots independently of the quince, and thus we combine in the tree both early fruiting from the quince, and the strength and longevity of the pear stock. For instance, of trees of the same variety, standing side by side in my own grounds for ten years, and enjoying the same treatment, those on the quince stock have attained a larger size, and have borne, for seven years, abundant crops, while those upon the pear stock have scarcely yielded a fruit. We have, also, others on the quince, which, twenty-five years since, were obtained at the nursery of Mr. Parmenter, where now is the most populous part of the city of Brooklyn, N. Y., and which have borne good crops for more than twenty years, and are still productive and healthy.

"That the introduction and cultivation of the pear upon the quince has been a great blessing, I entertain no doubt, especially in gardens, and in the suburbs of large towns and cities. And as to its adaptation to the orchard, I see no reason why it should not succeed well, if the soil, selection and cultivation be appropriate. A gentleman in the eastern part of Massachusetts planted, in the years 1848 and 1849, as many dwarf pear-trees as he could set on an acre of land at the distance of eight by twelve feet, and between these rows he planted quince bushes. In the fifth year from planting, he gathered one hundred and twenty bushels of pears, and sixty bushels of quinces. Of the former, he sold seventy bushels at five to six dollars per bushel, and he now informs me that he has lost only three per cent. of the original trees, and that the remainder are in healthful condition."

An important suggestion is contained in the following paragraph. We hope to live long enough to see it thoroughly carried out:—

"I anticipate that, at no remote period, we shall feel the necessity of a National Pomological Institute, with an Experimental Garden, where all the varieties true to name may be obtained, where all sorts may be thoroughly tested, and distributed to the members of the Society, and thus relieve the pioneers in American pomology from large expenditures and much personal inconvenience."

In conclusion, the author breaks out eloquently, thus:—

"It is estimated that, in the nurseries of Monroe County, there are thirty millions of trees, and that, in the whole of the nurseries of Western New York, commencing at Onondaga County, there cannot be less than fifty millions, besides the great number which has already been sent out to adorn your valleys, and crown your hill-tops. These are the precious fruits which have been gathered in this locality. Add to them the progress of this science in

various other sections of our Union, and what a charming prospect does our fair land present!

"FELLOW ASSOCIATES: In view of this auspicious progress, let us compare our experience and results; let us stimulate each other to still greater exertions for the advancement of our common cause. Let us endeavor to disseminate the knowledge of the few among the many, that we may improve the public taste, add to the wealth of our republic, and confer on our countrymen the blessings of our favorite art. Thus shall we make other men happy, and keep them so—render our own homes the abodes of comfort and contentment, and hasten the time when the garden shall feel no blight, the fruitful field laugh with abundance, and rivers of gladness water the earth."

AMERICAN POMOLOGICAL SOCIETY.

The sixth biennial meeting of the American Pomological Society was held in Rochester, September 24–26. Nearly all portions of our extended country, from Maine to California, were represented (there being delegates from *nineteen States*), and we heard it repeatedly remarked that a more respectable and intellectual body of men had never met in Rochester.

The Genesee Valley Horticultural Society held their annual exhibition in connection with the American Pomological Society and the Western New York Fruit Growers' Association, and the show of fruits and flowers excelled anything we have ever before witnessed. Had it not been for the partial failure of the apple crop in the West, the display would have been truly gorgeous; but what was lacking in apples and peaches was made up in pears. The extent to which pear culture is attracting the attention of fruit growers in all parts of the Union, was fairly indicated by the large number and excellence of the varieties shown. The veteran pomologist, and President of the Society, Marshall P. Wilder, who has, in his grounds at Dorchester, Massachusetts, over *one thousand different varieties of pears*, exhibited one hundred of his best new sorts; and that the Messrs. Hovey & Co., of Boston, exhibited 250 varieties. From this city, the show of pears was very large, and, in size, color, and smoothness of skin, unsurpassed. Messrs. Ellwanger & Barry, Hooker & Co., Frost & Co., and other leading nurserymen of Rochester, exhibited largely, as did also one or two amateurs. John Hampton, gardener to Selah Matthews, Esq., showed thirteen varieties of pears—among them a well-shaped Bartlett, weighing twelve ounces—and a fine collection of greenhouse plants, roses, verbenas, grapes, &c. J. Salter, gardener to J. F. Bush, Esq., exhibited eight varieties of exotic grapes. Mr. Messer, of Geneva, N. Y., also showed several varieties of splendid exotic grapes—among them some enormous bunches of Muscat of Alexandria. A dish of pears, of the Louise Bonne de Jersey and Duchesse d'Angoulême varieties, sent by President Pierce, from the "People's Garden" at Washington, D. C., showed the difference of the season here and at the South. They were fully ripe, while specimens of the same varieties grown here were quite green and hard. Dr. Grant, of Newburgh, N. Y., had a fine collection of native grapes, among them the Delaware—perhaps the earliest and best flavored native variety in cultivation, but lacking size—and a new seedling white grape, called Rebecca, which promises to be an acquisition. There were two fine collections of apples from Iowa, and one from North Carolina, containing many varieties of Southern apples but little known at the North.

The American Pomological Convention was welcomed to the city by the Mayor of Rochester, and, after some preliminary business, the President of the Society, Hon. Marshall P. Wilder, delivered a most eloquent and interesting address (which will be found on another page.—ED.)

After the conclusion of the address, the convention proceeded to business. The Nominating Committee reported the following list of officers, which were unanimously elected:—

President—Hon. MARSHALL P. WILDER, of Boston.

Vice-Presidents,

S. L. Goodale, Maine,	Hartman Kuhn, Jr., Penna.,	Thomas Affleck, Mississippi,
H. J. French, New Hampshire,	William C. Wilson, Maryland,	D. W. Yandell, Tennessee,
Fred. Holbrook, Vermont,	R. Tatnall, Jr., Delaware,	Lawrence Young, Kentucky,
Samuel Walker, Massachusetts,	Yardley Taylor, Virginia,	A. H. Ernst, Ohio,
Stephen H. Smith, R. I.,	Joshua Lindley, N. Carolina,	H. L. Ellsworth, Indiana,
A. S. Monson, Connecticut,	A. G. Summer, S. Carolina,	C. R. Overman, Illinois,
Charles Downing, New York,	Richard Peters, Georgia,	Thomas Allen, Mississippi,
William Reid, New Jersey,	C. A. Peabody, Alabama,	Rev. C. H. Byington, Ark.,

B. F. Nourse, Florida, Joshua Pierce, D. C., Amasa Stewart, Minnesota,
Robert Avery, Iowa, Edward Hunter, Utah, C. B. Lines, Kansas,
J. C. Brayton, Wisconsin, Hugh Allen, Canada East, Henderson Lewellyn, Oregon.
Simpson Thompson, California, James Dougal, Canada West,

Secretary—P. Barry, of New York.
Treasurer—T. P. James, of Pennsylvania.

The President, on thanking the Society for the honor conferred upon him, stated that he had fully determined not to accept the office, but could not find it in his heart to decline the trust imposed upon him by the unanimous voice of his friends.

After the reports from the State Fruit Committee, and from the Committee on the Downing Monument, the Society proceeded to revise the catalogue of fruits.

Of the list of pears for general cultivation, the following varieties were proposed for rejection, but retained after discussion: Ananas d'Ete, Andrews, Beurré d'Aremberg (decided that it should have "high cultivation" attached to it on the list), and Fulton. The list previously recommended for trial as promising well, was then taken up, and the following varieties were transferred to the list for general cultivation: Doyenné Boussoch, Beurré St. Nicholas, Howell, and Sheldon. Duchess de Berry, at the suggestion of Mr. Walker, had "d'Ete" added to its name, to denote its early ripening.

The following varieties were recommended as "promising well:" Vicar of Winkfield, Hosenschenk, Philadelphia, Fondante Comice, Niles, Emile de Heyst, Beurré Kermes, Conseilleur de la Cour, Comptesse del Aost, Beurré de Langelier, Doyenné d'Alencon, Beurré d'Albret, Delicis de Hardenpont de Belgraque, Delicis de Hardenpont d'Angers, Fondante de Charneuse, Osband's Summer, Beurré Nantais, Dix. The Bellisime d'Ete was decided to be unworthy of cultivation. Bleekers's Meadow and Passans du Portugal were removed from the "rejected list."

The Convention then proceeded to revise the list of pears recommended for culture on the quince stock. It was proposed to reject Belle Lucrative and Long Green of Cox, but, after discussion, it was decided to let them remain on the list. Beurré d'Aremberg and Triomphe de Jodoigne were stricken from the list.

Mr. Field called attention to a series of articles published lately in the *Horticulturist*, condemning the culture of pears on the quince stock. He thought people were likely to be misled by them, and wished the facts to be known. He had examined the pear-trees in the grounds of the author of those articles, and found that he knew little about their cultivation. The point of union between the quince and pear was three inches above ground, and, although they were receiving care now, it was evident that, until latterly, they had not been pruned or cared for in any way.

Mr. Hodge thought there was some prejudice in the public mind against dwarf pears. He thought it was caused by nurserymen having sent out varieties, like the Bartlett, that will not succeed well on the quince. Nurserymen should confine themselves, for the present, to twelve or fifteen varieties that are known to be fine growers on the quince.

Mr. Phœnix thought too little attention had been paid to pruning, and this was the great cause of the difficulty.

Mr. Barry wished the fact to be generally known, that a regular annual pruning is necessary to the success of the pear on the quince.

The President said twenty years' experience and observation had convinced him that many varieties succeeded as well, and were as durable on the quince root as on the pear. Has seen trees from twenty to twenty-five years old, healthy and fine; and Mr. Berckmans, now present, has seen them, in Europe, over one hundred years of age, in health and vigor. It is probable, however, that in these cases roots were thrown out above the graft.

After an interesting discussion of several varieties of apples on the list for general cultivation—all of which were retained—the Convention took up the list of apples which "promise well." The following varieties were removed from the list that "promise well" to the list for "general cultivation:" Benoni, Hawley, Primate, and Rambo. The Ladies' Winter Sweet was decided to be a misnomer for Ladies' Sweet, by an error on the part of the reporter, and was expunged from the list.

An interesting discussion took place on the Tompkins County King. Mr. Mattison, of New York, stated that it had been in cultivation for fifty years, and was a general favorite wherever known. It usually sold at double the price that could be obtained for any other variety. It generally bore every year, and had the peculiarity of making a fine growth while bearing a heavy crop. The fruit should be gathered early, when it would sometimes keep till July. Mr. Sylvester, of Lyons, N. Y., regarded it as an excellent fruit, but it was

not so fine-grained as some other varieties. There were several spurious sorts. He had known the Ribston Pippin sold for it. Mr. Bateham, of Ohio, had found it to ripen in December, and it proved of second-rate quality. H. E. Hooker considered it first-rate, but not "best," and would like to see it further tested. J. J. Thomas remarked that his father had told him that after removing the skin from this apple, he could scarcely distinguish it from the Swaar. Mr. Saul had heard the same remark made. E. C. Frost remarked that the Newark King was a totally distinct variety, ripening in the fall. It was decided to place it on the list that promise well, under the name of King of Tompkins County. The Wagener, at the suggestion of E. C. Frost, was also added to the list of fruits that promise well.

The discussion on grapes was quite animated, and, at one time, there was some danger of a warm discussion of the Temperance Question, had not the President wisely ruled all such remarks out of order.

The Delaware Grape was highly recommended by some gentlemen. Mr. Prince was of opinion that it would prove to be the most delicious native grape, except, perhaps, the Scuppernong of the South. Dr. Grant had grown it for three years, and found it perfectly hardy. Mr. Downing considered it one of the finest native grapes, and said that it was very hardy with him. Dr. Brinckle saw it first in 1850, and thought it finer than any native grape that he knew, but had doubts of its being a native; Mr. Longworth said it was not. Mr. Ernst stated that Mr. Longworth had been mistaken in regard to this grape, and was now satisfied of its American origin. Mr. Hovey esteemed it an excellent fruit, and wished it placed upon the list of varieties that promise well. Dr. Grant remarked that it was first discovered in New Jersey, and was introduced into Ohio twenty-five or thirty years since. It was recommended as promising well.

The Rebecca Grape, Mr. Prince had no doubt, was a variety of the Chasselas family, and thought that no such grape could be perfectly hardy. Mr. Reid said that it showed no indication of an origin from the Chasselas, except some resemblance in the foliage. Dr. Grant stated that it had been exposed at Hudson for the past three years, remaining on an open trellis during the winter, and had not suffered in the least, while many other things which were usually hardy had been destroyed. Mr. Downing had seen it for three years past, and considered it perfectly hardy, though not a very strong grower. Mr. Reid said that it was the only white native variety within his knowledge, and thought it desirable, if only for that reason. Mr. Prince knew of another white variety, in Pennsylvania. It was recommended as promising well.

The President wished to direct attention to several seedlings lately originated at Philadelphia, and called on Dr. Brinckle for information in regard to them, who made some remarks upon five sorts, viz: The Emily, Clara, Brinckle, Graham, and Raabe. Dr. B. stated that the Raabe was raised from seed of the Catawba, the others from seeds of foreign sorts, and that the Clara and Brinckle were, in particular, very fine. Mr. Buist observed that the Graham and Raabe were evidently natives, but that the others were purely foreign in their characteristics. Dr. Brinckle was of opinion that all grapes originating in this country should be considered natives, whether raised from native or foreign seed. Mr. Reid considered grapes from foreign seed more liable to the attacks of mildew than those of native origin. Mr. Hovey thought that seedlings from foreign grapes would not prove hardy without some "native blood." Dr. Brinckle stated that neither of these varieties had ever been protected, nor had suffered in the least from the effects of winter; but that of many other seedlings originated at the same time, the rest had all been destroyed. The President thought that the Emily must have some infusion of "native blood," as he had found it perfectly hardy.

The Union Village Grape, Dr. Brinckle had heard from Mr. Longworth, was as large as the Black Hamburg, and quite hardy, but that there had been a mistake made in the cuttings which had been sent him, and he had had no fruit. Mr. Grant observed that it was a monstrous grower, the bunches quite large, the flavor sweet, and as good as the Isabella. Mr. Ernst remarked that it was probably an accidental seedling, and he had seen it exhibited before the Cincinnati Horticultural Society, when it was so fine as to be by many persons mistaken for the Black Hamburg. He had not had much experience with it, but considered it a fine table grape. It was vigorous, and a little earlier than the Catawba, but he thought probably not well adapted for making wine. Mr. Grant said it was a little earlier than the Isabella. The President had seen specimens which were exhibited at Boston, and considered it very promising. Mr. Cabot thought it earlier than the Isabella, but not so early as the Delaware. He had eaten it from a vine under glass, and considered the flavor very fine. The cane was very stout.

Of the Hartford Prolific, Mr. Hovey entertained a favorable opinion. Mr. Downing was much pleased with it the first year, but he had since come to the conclusion that it was not

so good as the Isabella. It was, however, ten days earlier than that sort, and not much different in quality from the Concord. Mr. Prince condemned it, in strong terms, as miserably foxy, and considered the Concord infinitely superior to it. Mr. Reid considered it utterly unworthy of cultivation, except in a cold climate, where the Isabella and others could not be ripened. He thought the Concord much superior to it. Mr. Barry concurred; he thought it entirely unfit for the table, except in cases of absolute necessity. Mr. Hovey had never esteemed it as anything remarkable, but was disposed to think it valuable for cold localities, where better sorts could not be grown. Mr. Grant thought its earliness its chief merit; he had found it to ripen a week earlier than the Concord. Mr. H. E. Hooker considered it more foxy than the Concord, but quite as good.

The Northern Muscadine Mr. Prince considered as belonging to the same class as the variety last discussed. Mr. Buist observed that it had been brought before a committee of which he was a member, and that it was greatly against his will that he remained in the room with it. The President made some humorous remarks on the disposition shown by some persons to esteem their own productions too highly, and to recommend them so frequently to others, as to become at length themselves convinced that they really were what they had represented them. Mr. Thomas had been much surprised at the pertinacity of the Shakers in recommending this grape so highly. It was, as he had frequently told them, no other than the common *brown fox*.

The Concord, Mr. Downing had found a little larger and ten days earlier than the Isabella. Mr. C. E. Frost had fruited it for the first time this year, and it had ripened six days before the Isabella. Mr. Reid had also fruited it but once; he considered it very hardy, a free grower, nearly as good as the Isabella, and a week earlier. Mr. H. E. Hooker said that it had ripened, with him, at the same time as the Isabella, and was nearly as good.

Mr. Prince remarked at some length upon the natural adaptability of this country to the culture of the grape—that it was exemplified by the fact that there were seven or eight indigenous species, and one only in the whole of Europe, and that he had been at a large expenditure of time and money in order to acclimate the foreign grape, but that he had never succeeded in a single instance—concluding by expressing his opinion that we must rely chiefly upon our native sorts, and that America was by nature destined to become more renowned for grape and wine culture than any other country in the world—that it was the "natural home of the grape, and the land of the vine!" The President was glad to hear the remarks made by Mr. Prince, and concurred with him fully. He had no doubt of the future importance of wine culture to this country, and was aware of Catawba brandy having been already purchased at $5 per gallon, for exportation to France, for the purpose of flavoring foreign liquor.

Mr. Ernst made some remarks upon the injury which grapes had received from the extreme cold of the past winter; when Mr. Hanford, of Indiana, observed that, in his vicinity, grapes had sustained a temperature of 31° below zero, without injury.

The discussions on strawberries, raspberries, and blackberries, were exceedingly interesting, and will be given next month.

It was decided to hold the next meeting of the Association at New York, in the fall of 1858. —*Genesee Farmer.*

EDITORS TABLE.

The Pomological Convention, at Rochester, was well attended, and well attended to. The discussions were most interesting, and, as usual, were conducted and regulated by the able President, Col. Wilder.

The admission of fruits upon the list for "general cultivation," it will be seen by the report, has been very limited; more fruits have been added to the list as "promising well," not yet having been sufficiently tested. Every variety was fairly discussed in regard to its fitness for different soils, localities, and latitude. As there was representatives of twenty-one States of the Union, California included, most of the varieties on trial had to undergo a thorough examination from all sections.

It is not to be doubted that such an open and broad discussion will have the most important results. At every session, the Convention seems to acquire new strength, and settle facts. It is, in truth, most important for fruit growers of all denominations, to have all the opinions and the sanction of the large majority, either for the admission or the rejection of varieties. With such an institution, impositions, and even common errors, will rarely occur. Nurserymen and dealers in fruit-trees or plants, are aware that their transactions with the public will have to stand the trial of a competent jury; and this will do away, measurably, with one of the greatest evils of the trade—carelessness, and consequent occasional imposition; the one as bad as the other in its results, though widely different in principle. If American pomology shall, ere long, be the most accurate and the best in the world, it is owing to the great idea of a national convention, in which everything relating to fruit, is fairly and honestly discussed by the most able horticulturists of all parts of the Union.

The great controverted question of pear budding on the quince, has been examined and discussed. Much remains to be said as experience increases; but, by proper management, it seems, beyond doubt, that the pear will succeed on the Angers quince; much, if not all, depends on *the stock* and on the *manner of planting;* for the want of proper attention to these two conditions, many have failed, and therein, perhaps, lies the origin of all those conflicting opinions regarding dwarfs as orchard-trees. No one disputes their utility in garden culture where they can receive proper attention.

Many fine specimens of apples, pears, grapes, &c., were exhibited in the spacious hall which was kindly left at the disposal of the Society by the active and able President of the Rochester Horticultural Society, Mr. Reynolds. It would be an endless task to note all the fine collections of fruit from the East and the West, and chiefly from the large fruit growers of Western New York. Suffice it to say, that there was a fine display of all kinds in season, mostly named correctly; this is not the least important improvement in horticulture, when we consider that, without correct nomenclature, confusion, errors, and deception, must be of every-day occurrence.

The splendid nurseries of Ellwanger and Barry, Mr. Frost, Hooker, &c. &c., were visited by the President, the members of committees, and, indeed, by all those interested in the cultivation of fruit. The President, and a great number of the members, accepted an invitation to dine at Mr. Frost's, where, besides the ordinary delicacies of a good entertainment, there was a rich display of fruit of the choicest varieties, to all which due attention was

paid by parties who understood well what they were about. Some of the best products of Ohio, here stood the test of this trial committee very successfully.

The good results of these public meetings cannot be denied, and it is mainly owing to this Society that American Pomology has made, in so very short a time, such great strides; now the engine is fairly started, all that we want is to follow in the same track, enlisting the united efforts, labors, and sacrifices, of all the men prominent either for their high position and activity, or their intelligent and practical labors. A little opposition from writers like Dr. Ward and "Jeffreys," will do no harm in the end, but will tend to rouse investigation, and, with investigation, the truth must in the end prevail.

Postscript to the Downing Monument.—As we are going to press, we have received from the designer of the Downing Monument the following additional inscription, which is to be cut into the base of the pedestal:—

"This memorial was erected under a resolution passed, at Philadelphia, in September, "1852, by the American Pomological Society, of which Mr. Downing was one of the original "founders. Marshall P. Wilder, *President.*"

The United States Agricultural Exhibition, at Philadelphia, was an eminent success, both as regards the display and the unequalled attendance. The receipts are said to have reached thirty-nine thousand dollars; the utmost order prevailed, and our citizens had a good opportunity of judging of the value of such exhibitions of stock and fruit. We hoped to be furnished with the official report of the horticultural department, but it had not been received, owing, no doubt, to an accident, when the *Horticulturist* went to press.

The First Philadelphia Park.—The noble gift, made by a number of our neighbors to the city of Philadelphia, of forty-five acres of land for a public park, has already been chronicled in these pages. It affords us sincere pleasure to add, that the proper steps have been taken by Councils, aided by an intelligent committee of the donors, to immediately improve and embellish these grounds, known, till lately, as "The Hunting Park Race Course," and near Germantown. That able writer and landscape gardener, Mr. William Saunders, who favors our readers monthly with the "Calendar of Operations," received the first premium for the plan of laying it out, and Mr. James Gleason, both of Germantown, the second.

Mr. Saunders, in his description, showed that he understood the principles of creating scenery; he has been appointed to superintend the entire laying out, and has gone to work already to select the ornamental trees and shrubbery. This appointment will not, however, as might be conjectured, interfere with his regular business of landscape and consulting gardener, which is already extensive, embracing a space between Carolina and Massachusetts.

We shall endeavor to give Mr. Saunders' plan, in a reduced form, as soon as it can be prepared.

The Genus Correa.—In a previous page will be found an essay on the cultivation of the genus Correa, by Mr. E. Sanders, of Albany, to which we invite attention. The *London Florist* figures, in its last number, the beautiful *Correa cardinalis*, lately exhibited by Messrs. Veitch & Son, at the Crystal Palace, as one of the most beautiful and interesting. In habit, it resembles *Correa ventricosa*, but is far superior to that kind in color and attractiveness, producing rich scarlet flowers an inch to an inch and a half in length, is an abundant bloomer, and of compact habit, and continues blooming longer than any other variety. Correas are easily cultivated, and should be more generally known.

Another new plant must not be forgotten—the *Pleroma elegans*. This is one of the most

beautiful summer and autumn flowering plants in cultivation; there is a neatness in the glossy green foliage and compact habit of well managed plants of it, that is at all times pleasing. And if we add to this the large, round, dark purple flowers which are produced on every branch in great abundance, we shall find that we have few plants more attractive.

Peach Culture.—It is with much pleasure we present our readers, in the present number, with an account of the mode of culture of the peach, written by Samuel T. Jones, Esq., to whose eminent success we have repeatedly alluded. Its simplicity alone will recommend it. The largest tree in Mr. Jones's garden failed last spring; the trunk, at *this moment*, measures, at the surface of the ground, four feet in circumference; a man's body averages three feet only; at six or eight inches above the ground, it measures three feet, and was, doubtless, something more when distended with sap. Other trees in the vicinity measure as follows:—

In circumference, at the surface.	In circumference, six to eight inches above.
Three feet,	Two feet, seven inches,
" "	" " eight "
" "	" " seven and a half inches,
Two " seven inches,	" " four inches,
Three " two and a half inches,	Three "
" "	Two " nine "
" "	" " seven "

The lamentations respecting the peach are all gammon, to use a vulgar phrase. We have seen them at Mr. Jones's, and in his vicinity, as well as at Mr. Lürman's, near Baltimore, this season, as fine and as fruitful as ever. All they want is proper treatment, and it is well to know what that consists of.

Grapes.—The season is prolific in new varieties of grapes; from J. Fisk Allen, Esq., we have received a box of specimens of his new hybrids. The *Rebecca*, all our correspondents agree in praising very highly, and, by the report of the Pomological Society, it will be seen that new seedlings, raised by Mr. Raabe, of Philadelphia, are exciting attention.

Our specimen of "Allen's Hybrid," a white grape, ripening in August, is highly satisfactory—indeed, we pronounce it the best yet produced; if it prove hardy, which is hoped, it will be a most desirable acquisition, and it is equal to any in flavor.

Allen's No. 8, raised under glass, is a black grape, which it is hoped will also be hardy; about the size of Isabella, and excellent.

No. 3 is larger than Isabella, but not being ripe we cannot characterize. It has a good appearance. Mr. Allen is entitled to great credit for his exertions in this department. He says:—

Salem, Mass., Oct. 6, 1856.

J. Jay Smith, Esq.—Dear Sir: According to my promise, I now send you specimens of Allen's Hybrid, a white grape, and a Black Hybrid, No. 8. These were raised under glass, but not forced, and on an eastern exposure, where but a few hours' sun fell upon the house or vine. The white grape flowered on the 7th of May, and was ripe the 15th of August, and has hung upon the vine since, during all the excessive rains of the past two months, amounting, in my garden, to sixteen and a half inches, without decay of any amount. This grape is as early (if not earlier) in maturing as any European variety of any value. In quality, equal to the Chasselas in its best condition. The vine has stood the last winter in the open air, and, I have no doubt, will prove sufficiently hardy for open culture on walls of houses, and, I hope, will even be suitable for field culture. No. 8 is not so good or so early as the white, but it is free from pulp and the foxy flavor. Several other vines of the same

family of Hybrids, have fruited in the open air this year, and withstood the severe cold of last winter unprotected. The mildew has been more extensive this year than usual, and the excessive rains have not only delayed the ripening of out-door grapes, but injured their flavor. Respectfully yours, JOHN FISK ALLEN.

W. Brocksbank, of Hudson, N. Y., forwards us a box of the Rebecca Grape, and says:—

"The vine is an accidental seedling, which originated in the garden of Mr. G. M. Peake, of Hudson, N. Y., whether from the seed of native or foreign grape, is not known, although its aroma and other characteristics indicate it to be of native origin. It is perfectly hardy, enduring our severest winters, in any exposure, without injury.

"The original vine has fruited for the last five years; one, three years old, from a layer, has now upon it at least a hundred good-sized bunches of fruit. It is a good bearer and thrifty grower, extending its shoots from fifteen to twenty feet in one season, with good cultivation. Fruit ripens a week or ten days earlier than the Isabella."

A correspondent who has seen the "Rebecca" vines, says: "From the foliage, I entertain no doubt of its native origin." Another assures us that it was considered, at the Pomological Convention, the best native grape yet brought into notice. A third "looks for quite a *furor* about this grape," and suggests "planting it alongside a Chasselas of Fontainbleu, and dusting the blossoms together, hoping to raise a seedling which will combine the hardiness of the one with the excellent flavor and fine bunches of the other." Really, this grape is, in our opinion, a great success. We are not informed whether Mr. B. is prepared to take orders for vines, but trust that he is, and that he will be fully rewarded for his discovery of such a delicious and compactly bunched, white, hardy grape. "Allen's Hybrid" and the "Rebecca," are destined to be great favorites, and to supersede some of our present best table grapes.

GRAPE-VINES AGAIN.—We have recorded the success of Mr. Glendinning, in taking the prizes from the best English grape growers by grapes from his small house and limited border. Several writers have taken up the topic and now assert that the proper theory is that vines root in the subsoil, and obtain sufficient nourishment there; numerous instances are given of carelessness in making preparations for roots where success was very remarkable. In one case, a gentleman made a hole with a pickaxe, and a little soil was put in to cover the roots; nothing more was done when the celebrated vines which produced four crops in two years were planted. What say the advocates for whole oxen now? Good, fibrous loam, and roots deep in the soil, beyond the ordinary atmospheric changes, is now the theory!

VINEYARDS SUCCEED IN INDIA, at Ghuzni, a table-land in India, 8,000 feet above the sea, the climate resembling that of Canada, the air dry, summers short and extremely hot, the thermometer indicating sometimes 112° in a tent. This part of Affghanistan is celebrated for its vineyards—indeed, grapes are said to be the staple of the country. The system of cultivation pursued may give a valuable hint to our country, as the only one by which in a cold climate and with limited means the cultivator could hope to see his vines ripen, both fruit and wood.

The site of the vineyard is selected, if possible, on the slope of a hill with a southern aspect. The ground is then dug in trenches (running north and south) at intervals of about twelve feet, and from three to four feet deep, the soil excavated being deposited between the trenches, thus forming intermediate mounds, the whole finally resembling somewhat a gigantic celery bed. All the stones that have been dug out (and, if necessary, others are collected for the same purpose), are then driven into the sides of the trenches and mounds,

and thus form a rough revetment or wall; the vines are then planted in the bottom of the trenches, and, as they grow, trail themselves over the mounds.

The advantages of the system are obvious. During the long winter, the vines are buried deep in snow, and this warm covering is retained by the trenches until some time after all on the surface of the country has disappeared, and danger from spring frosts has passed away. As the snow in the trenches melts, it finds a ready outlet at the lower ends. When once the vines begin to push, their progress is rapid, as, from the mode of growth provided for them, they receive not only the full benefit of the whole of the direct rays of the sun, but also of the heat radiated from the underlying stone revetment.

Grapes in 1856.—Mr. Editor: This has been one of the most propitious seasons for the grapes, and the Isabella has never been known to grow larger, or perfect itself better. Large crops have been grown, and price reduced to five cents per pound. It is hoped the Catawba will ripen; a few days more of sunshine will do it. Fine specimens of the "Delaware" and "Diana" were shown at the Genesee Valley Horticultural Exhibition. The "Diana," a seedling from the Catawba, ripens full two to three weeks earlier than the Catawba, and is truly an acquisition. The Delaware is very sweet and delicious, as well as being early. A new grape, called the "Rebecca," was shown by Dr. Grant, who lives near Newburgh, New York, which is also a choice one. It appears like the "White Chasselas," and is very fine, early, and hardy. It will command universal attention, and be generally admired.

Mr. Longworth sent fine specimens of the "Catawba" Grape from Cincinnati, for one of the conventions, which came too late, but, be assured, good use will be made of them in distribution amongst the lovers of the grape at Rochester.

Truly, J. H. Watts.

Rochester, N. Y.

Gossip.—A lemon girthing, eighteen and a half inches from the footstalk to the flowering point, girth cylindrical fourteen inches, and weight one pound nine ounces, has been the wonder of a large neighborhood in England, and is considered to be the largest on record. ——Mr. Roswell L. Colt, of Paterson, New Jersey, states, in a letter to the Commissioner of Patents, that he has ordered from Scotland the spawn of the trout, carp, and salmon, with the view of propagating them in the waters of New Jersey. He suggests that the Patent Office should import for distribution the spawn of the red mullet of Europe, as well as that of the sardines, for breeding in the Middle and Southern States.——N. Longworth, Esq., writes to a Cincinnati paper: "You say, the wine manufacturers of our city contemplate raising the price of their wines, in consequence of a failure of the grape crop. I have heard of no such intention, and believe there will be no such cause for it. I, last spring, had upwards of 40,000 gallons of old wine, which I have been selling, and still sell, at one-fourth less than cost. It is true, that last winter was very destructive to the crop. But many will have a fair crop; and a better yield, in Kentucky and Indiana, south of us. And, I believe, increased grape culture will give us as large a crop as we had last year. But little injury has been experienced from the rot, and I believe the season of danger is past.——A lily, the *Lilium giganteum*, is making a great sensation among the English gardeners. It grows ten or twelve feet high, the flowering portion measuring twenty inches, and bearing eighteen superb flowers somewhat resembling the common white lily, excepting that they have a deep purplish tinge along the inner edge of each division of the perianth, and measuring five and a half inches across the mouth of the tube. Have any of our gardeners received this plant? ——Moss roses require a good deal of manure, and a rather cool situation. Many persons are unsuccessful with them for want of this information, and from not mulching their roots.——A good, old-fashioned correspondent so well expresses our own views in the

following paragraph, that we copy it entire: "The common feeling with some is, that such and such a matter of one's own experience is too trifling to be made public; whereas, in truth, such practical instances of the application of principles are often of great value, and contain precisely the kind of information which we cannot get from scientific works. I regard the readers of the *Horticulturist* as an assembly of friends, who meet together once a month for mutual instruction and entertainment. Among them are a large portion who are not 'further along' than myself; and I consider it a sort of duty in each to impart whatever information will be serviceable to others."——If you want to have your prairie roses in their greatest perfection, mix two or three ounces of guano with a pound of fine charcoal, and bury it all over the bottom of the hole when you plant; the same treatment will be good for all roses, using less guano for the smaller and more delicate. Light waterings of guano are also important once a week.——It is said that the proportion of persons in New Jersey engaged in horticulture compared with Massachusetts, is as six to one, and, with New York, as three to one. Her soil and situation admirably adapt her to the growth of fruit. A concentrated action on the part of her citizens would prove useful. ——Endive is very good boiled, thus: chop it up fine; boil it; then put it in cold water; then squeeze it quite dry; mix a tablespoonful of flour and a little butter, and boil them in a pipkin; put this into the endive and a teacup of water; add salt and pepper, and boil till done. The same receipt is good for spinach.——The use of cocoa-nut mats, such as are employed for covering floors in public rooms, has been found advantageous for covering greenhouses instead of shutters. Though sufficiently porous to admit light, the warmth is greatly increased by them. The inclosures of greenhouses are not sufficiently attended to; by calculating the number of very small air-holes in a large house, a friend lately came to the conclusion that there was a space, if all put together, of four square feet! for the exit of warm air; no wonder the gardener found it impossible to keep out the frost.——The "Virgilian Graft" was thus effected: a hole was bored across the diameter of a walnut-tree, and a vine branch passed through it while yet in connection with its parent stem; after a little time the branch was cut off, and it was said by the ancients, it would then be found united to, and growing upon, the walnut. This has been very properly questioned, not as to the fact, but as to the nature of the union. It was not a true graft; the wood of the tree may have supplied nutriment to the branch, not by union of its vessels, but by the decay of the vessels surrounding it; and, from the nature of the case, such a union must have been short-lived.——A very excellent *marmalade* may be made with pears, to use in making tartlets. Boil six good-sized pears to a pulp; weigh them; take half their weight of sugar, put into a saucepan, with a very little water, boil it, and skim it while boiling; when thoroughly boiled, add the pulp of the pears; give the whole a boil, and add about four drops of the oil of cloves.——In Italy, baked beets are carried about, hot from the oven, twice a day, and sold in the streets, giving to thousands, with bread, salt, pepper, and butter, a satisfactory meal. By baking them, the rich saccharine matter, which is lost by boiling, is in a great measure retained; this mode is strongly recommended for trial.——A friend, who professes to like our Kew Gardens' articles, invites us to a description of Chatsworth. A good description of this regal place of the Duke of Devonshire would fill a number of the *Horticulturist*, and be then imperfect; the best account we have seen, is in the first volume (1846) of this periodical, page 298. About one hundred and forty men are constantly employed on the grounds near the house. When we saw it, the old duke, who is deaf as a post, was playing cricket with the Earl of Burlington, the next heir, and a bevy of the sons of the latter, assisted by some of the best cricketers among the workmen. We shall, perhaps, some time look up our notes.——Watering *the bark*, and not watering the roots, of a transplanted tree, then in a half-dormant state, has been strongly recommended. Downing said somewhere, that there was no doubt half the trees that die annually from

the ignorance of transplanters, perish from a mistaken notion of deluging their roots with water daily, when their fibres are so feeble as to dread it as much as a patient afflicted with hydrophobia.——The most important recent botanical works are Seemann's *Popular History of Palms*, and Dr. Danberry's *Popular Geography of Plants*, or *A Botanical Excursion round the World*, each about three dollars in London, and, at the same price, Stark's *Popular History of British Mosses*.——Some novice in botany lately sent abroad a paragraph on bulbs containing a perfect germ within, which might be examined by carefully unfolding, &c. The article was popular, and ran the circlet of paragraph scissors. It may surprise some who seized on it, to read the following beautiful lines from Darwin's *Botanical Garden*, a book of the last century:—

"Lo! on each seed within its slender rind,
Life's golden threads in endless circles wind;
Maze within maze the lucid waves are roll'd,
And, as they burst, the living flame unfold.
The pulpy acorn, ere it swells, contains
The oak's vast branches in its milky veins;
Each ravel'd bud, fine film, and fibre-line,
Traced with nice pencil on the small design.
The young narcissus, in its bulb compressed,
Cradles a second nestling on its breast;
In whose fine arms a younger embryon lies,
Folds its thin leaves, and shuts its floret eyes;
Grain within grain successive harvests dwell,
And boundless forests slumber in a shell."

The Curculio.—Mr. J. R. Gardener, of Sunny Side, Montgomery County, Virginia, informs us that he has been successful in destroying the curculio, by piling small stones, to the height of eighteen inches and about three feet in diameter, round the trees. Those thus treated, he says, are loaded this season, while on trees ten feet distant, without the stones, the fruit is all destroyed. The person who first tried it was led to do so, by observing large quantities of plums on trees growing wild, in the rocks, in some parts of Pennsylvania.

Another plan is, to remove the soil from around the tree as soon as the insect was noticed. The earth was taken off about five inches deep, and wheeled away some sixty feet, and scattered about, thus destroying the insect. Trees thus treated are loaded with fruit, while the others are destroyed.

Mr. A. Fahnestock, of Toledo, Ohio, one of the committee on Mathews' Curculio Remedy, has written to the *Ohio Cultivator* to say it has been perfectly successful; that Mr. Barry was misinformed in saying it was a laborious process, as it requires to be done but once; but still, the remedy does not come to the ear of the public. Why is this?

The Largest Pear.—Dr. J. M. Ward, of Newark, N. J., sends us a Duchesse d'Angoulême Pear, grown by himself, the size and weight of which are positively fabulous to those who have not seen it. When taken from the tree, the weight was 35½ ounces; its dimensions 17¾ inches, in its longitudinal circumference, and 15½ in its cylindrical. The weight is attested by the Editor of the *Newark Daily Advertiser*, and by Mr. Reid, of Elizabethtown, in the presence of Mr. Redman, of the *Southern Cultivator*. When we received it, the weight was diminished by the removal of a decay which had been replaced by cotton; this reduced the weight to two pounds. It is the largest pear, probably, on record, and comes in very well just now, to ease off a little the remarks made at the Pomological Convention about Dr. Ward's management of his trees!! We have had it modelled. It is remarkable that the largest pear of last season also came from Newark.

Rochester, Oct. 1, 1856.

Editor Horticulturist: The American Pomological Society held its session on the 25th of September, continuing three days, which proved one of its most useful and interesting ones.

The most celebrated pomologists of the country were present, and the utmost harmony prevailed.

The "Genesee Valley Horticultural Society" held its fall exhibition at the same time, and members of the Convention were amongst the contributors, and a finer collection of fruits has never been shown out of Boston. Corinthian Hall was well prepared for the show, and great credit is due to Mr. Reynolds, its proprietor as well as President of the Society, for the arrangement of tables, &c. &c., and universal satisfaction was expressed at the show of fruit and flowers.

Mr. Longworth, with his usual liberality, sent a case of his native wines, which were pronounced as best, and members drank to his health as a public benefactor in bringing the grape to such perfection, in this country, in its use for the manufacture of wine.

Temperance will be promoted by its use instead of the alcoholic beverage so freely used in this country. Respectfully, J. H. Watts.

Necrology.—We should have recorded sooner, but for an accident, the death of Robert Meston, gardener to Colonel Polk, of Tennessee. Mr. Meston was an occasional contributor to the *Horticulturist*, and evinced, by his writings, a degree of knowledge and thoughtfulness on his favorite subjects, that was quite extraordinary. He leaves a family, for whom great sympathy is expressed by the neighborhood.

David Ross, a botanist and gardener, died on the 27th of September, at Louisville, Kentucky. He had endeared himself to the inhabitants of that place, by his devotion to science, his suavity, and great goodness of heart. At the time of his death, he was laying out Cave Hill Cemetery, which he had greatly improved, and where his urbane and gentle manners had won the esteem and confidence of all who knew him.

New Verbena.—Geo. C. Thorburn, of Newark, N. J., writes as follows: "Inclosed you will find a flower and leaf of the greatest *hit* in verbenas since the early days of Defiance; from its unique foliage, being a real vervain leaf, and pretty flowers and creeping habit, it will be, for all vase, basket, or rock-work purposes, the prettiest thing in its way ever introduced." Few persons have done more than Mr. Thorburn in introducing novelties to enrich our floral domain.

Steam Plough.—Fowler's Steam Plough was lately successfully exhibited at Boxted Lodge, England; in the very field where the reaping machines had been at work, a space was cleared, and preparations were made to plough the land scarcely relieved of its burden, and the wonderful rapidity of mechanical operations was demonstrated by reaping, ploughing, and actually sowing the same field, in one day, besides threshing, grinding, kneading and baking a loaf of bread out of the crop that was standing in the field that morning! Steam ploughing seems already to be a great fact.

Catalogues, etc., Received.—Trade List of Parsons & Co., Flushing, near New York, for Autumn of 1856.

Catalogue of Fruit and Ornamental Trees, 1856-57. By Verry Aldrich, Arispe, Bureau County, Illinois.

Catalogue of Fruit and Ornamental Trees cultivated and for sale at the Hopewell Nurseries, near Fredericksburg, Virginia, Henry R. Robey, Proprietor.

New Plants exhibited at the London Crystal Palace lately, were *Abies Kaempferi*, a new Larch, from the North of China, said to grow one hundred and fifty feet high, and perfectly hardy; its foliage is very fine. Leptodactylon Californicum, from South California, foliage and habit resembling *Roellia ciliata*, flowers two inches in diameter, light rose, tinged with lilac, and pronounced one of the most beautiful greenhouse shrubs. Gesneria Donckelaari, a foot and a half high, with spikes of blooms a foot in height. *Philesia buxifolia*, with two or three new Ixoras, and Begonia Thwaitesii, with handsome, brown foliage, having blotches of dull green. A *Rhamnus*, of a species producing a celebrated Chinese green dye. The *Collinsia verna*, a native of Kentucky, attracted much notice, and is recommended as a charming bedding-out plant, having a profuse succession of flowers, the upper lip of the corolla being pure white, and the lower one azure blue, with white rays, and the under side pink.

Answers to Correspondents.—(P. T.)—Chimonanthus Fragrans. Your disappointment with this deliciously scented plant is very natural. The English writers place it on all their lists of garden shrubs, and, in England, by training it against a wall, they get the finely scented flowers from November till March. By placing a protection of glass around the shrub here, we have no doubt the bloom might be obtained in perfection; as it is in our own garden, the buds form in great numbers, but are destroyed by the cold of December before the bloom appears. At the South, it would be a most valuable addition to the winter garden. It is a native of Japan; from *cheimon*, winter, and anthos, a flower; of the order Calycanthaceæ, of which our Allspice shrub is an example.

(C. S.)—Wistaria Chinensis. This beautiful vine may be made to flower several times in the year, by the following simple treatment: After the first flowering is over, strip off all the leaves, and cut off all young and superfluous branches which have been formed, to within a few eyes of the stem, which causes it to throw out fresh leaves, and to flower again; after this bloom is over, the same process will produce a third bloom, late in the season. The plant does bloom naturally twice, and even thrice, but the flowers are so very weak and so few, that it is never worth notice; whereas, by the above simple process, an abundant succession may be insured. These remarks will not apply to *young* plants, but only to those that are well established. By severe trimming, this plant may be grown as a bush.

(H. R. Roney, Virginia.) The oak shrub, growing about seven feet high, and bearing a fine crop of acorns, and sometimes only two and a half feet in height, of which you have sent us the leaves, is the Quercus prinoides of Wildenow, and the Prinus chincapin of Michaux.

(Catawissa.) Yes; the Catawissa Raspberry *is* a "perpetual bearer" up to late frosts, and it produces abundantly; the flavor of the raspberry may thus be had all the season, but the berry is not of the highest character or aroma; we are, nevertheless, pleased with it, and consider its introduction a valuable acquisition; we say this, which we could not conscientiously say last year, after having grown it successfully.

T. S. Gold on the Kalmia was received, but we have not been able to find a place for it, which, however, we hope to do.

Electrotyping.—Perhaps the largest application of the Electrotype, or Galvanoplastic process, mentioned in a former page, has been made in the Cathedral of St. Isaac, at St. Petersburg. The dome is superbly electro-gilded with two hundred and forty-seven pounds of ducat gold; the metal employed in its construction is—copper, 52½ tons; brass, 321½ tons; wrought iron, 524½ tons; cast iron, 1,068 tons. Total, 1,966½ tons!

Horticultural Societies.

Brooklyn Horticultural Society.—This flourishing community held their third and last general meeting on the 17th, 18th, and 19th of September, when upwards of $520 were distributed in prizes.

To any person acquainted with horticulture, and who has closely observed the improvement in culture which has been successively presented here, and likewise instilled into the surrounding neighborhood, the encouraging and judicious action of this Society is readily seen. Some of the wealthy and most influential men in the locality, have, from the commencement, assisted, not only by their money and personal attention during the exhibitions, but by unremitted exertions in obtaining the needful funds from, and patronizing attendance of, their numerous friends. This same body has also considered that the more practical members were the best suited for carrying out the general arrangements; consequently, this part has been almost entirely under the control of the latter. Owing to such a policy, all has most unprecedentedly prospered hitherto, and as the same support is, and likely will continue to be guaranteed, we would advise the Committee of Arrangements to be careful that no discrepancies occur, on their part, to mar so noble an institution.

Considering the lateness in the season, the plants and flowers were very numerous, and finely grown. J. R. Rauch, of Brooklyn, to whom was awarded the first premium for "collection," had many novelties amongst his well arranged stand of over 150 kinds. L. Menand, of Albany, had also an extensive assortment of fine and rare quality, amongst which were some most beautiful ferns and lycopods, many of them natives. He also won the first for six plants, with admirably grown specimens, and the premium single plant, with Erica transparens, *four feet* in diameter, and *five feet high*, well bloomed. Who will say, after this, that heaths cannot be grown in America? Other flowers and plants worthy of notice, were seedlings of Lilium lancifolium, white and spotted, by J. B. Mantel, of Astoria, remarkable for the immense number of flowers on a stem. If this character should hold permanent, they will be a great acquisition, but we are inclined to think it is nothing more than present exuberant growth. The lovely Swan Flower (Cycnoches ventricosa), by Mrs. Holbrook, of Eighteenth Street, New York. A fine specimen of Ixora javanica, by Alexander Gordon, gardener to — Hoit, Esq., of Astoria. Sequoia gigantea, *alias* Washingtonia, *alias* Wellingtonia (the Big Tree of California), was in two collections, about one foot high. A stand of seedling Dahlias, by Mr. Burgess, of Glencove, Long Island, all good; one, a very dark maroon, possessed all the perfection of the most stringent rules of the florist. An ornamental design, by H. A. Graef and Sons, of Brooklyn, representing a series of cornucopœias, filled with flowers and fruit. A noble Cissus discolor, by Martin Collopy, gardener to — Prentice, Esq., Brooklyn. Bouquets, baskets of flowers, &c., were numerous and well arranged, the handsomest on the table being a basket of wild flowers, by Henry Tanner. Fruit was abundant, and mostly of good quality. The first collection of apples was shown by your correspondent, Dr. J. M. Ward, of Newark, New Jersey; he had also a good variety of fine pears. D. J. Mannice, Esq., of Bushville, Long Island, took the premium for the greatest number of pears with 163 varieties; these, however, were only middling quality. The smaller lots of pears were exceedingly fine, particularly the first six, by Alexander Gordon, and best twelve by Thos. Duncan, gardener to — Wolsey, Esq. Grapes, both foreign and native, were good and plenty; Thos. Duncan had the best six, and Wm. Grant, gardener to Vandeventer, Astoria, the best three varieties. Henry Hudson, gardener to F. Griffin, Esq., Brooklyn, showed Black Hamburg and Frankenthal (?) well ripened out of doors. There was also what was understood to be a native seedling, called Rebecca, from Mr. W. Brocksbank, of the Prospect Hill Nursery, which in flavor is equal to a Frontignan, entirely free from the usual hard pulp, the foxy smell nearly extinct, and answers to the following description: Bunch rather small, without shoulders; berries numerous, close set, medium size, roundish oval, whitish amber green, sweet and rich. If a few leaves had accompanied the bunches exhibited, there would have been a better chance of determining as to its origin; but, if it really be as represented, quite hardy, and ten days earlier than Isabella, it ought to be in every garden.

Taken collectively, the exhibition was very good, and the over-crowded rooms showed that so rich a treat was duly appreciated. W. C.

Calendar of Operations.

NOVEMBER.

BY WILLIAM SAUNDERS.

VEGETABLE GARDEN.—Manuring and digging ground will be a principal feature in the garden at present. If possible, let it be trenched eighteen inches deep. Where the subsoil is clay, a small portion only ought to be brought to the surface at a time; by a repetition of this process, a good depth of workable soil may be ultimately secured, and the growing crops receive no check in dry seasons.

There is a difference of opinion, among practical cultivators, with regard to the propriety of applying manure in the fall, many preferring to apply it in spring, immediately before cropping. Much depends upon the nature of the soil; tenacious soils are much benefited by a heavy application of fresh or undecomposed manure, turned in at this season, as it tends to preserve that porosity so necessary for a free permeation of frost, which is found a valuable auxiliary in cultivation. Manure, applied in spring, requires to be thoroughly decomposed, that its action may be immediately effective. For the earliest crops of peas, potatoes, onions, &c., fall manuring is, perhaps, preferable.

Asparagus.—The tops should be cleared off as soon as they decay, all weeds and grass removed, and the roots covered over with manure or leaves, as a protection from severe frosts, which weaken the plants, especially in soils naturally moist. Manure is of course preferable to leaves, as it will enrich the soil. The best asparagus I have seen, had an annual dressing of sea-weed applied in this way. Those who can command this article, should improve their advantages in this respect.

Celery.—There are various methods adopted to preserve this crop for winter use; it is frequently lifted, and kept in cool cellars. If the soil be packed well up to the tops, finished rounding, so as to throw off water, and covered with eight or ten inches of leaves, it will keep better where it is grown; this covering will prevent the ground from freezing, so that it can be reached at any time.

Spinach will also repay the expense of throwing a slight covering of straw or leaves over the plants.

Cabbages may be lifted and planted as close as they can be packed in trenches; cover the stems well up with soil, and cover the tops with straws or leaves.

FRUIT.—The preservation of winter fruit is a subject worthy of more care and attention than is generally bestowed upon it. In the first place, it should have been carefully handled in gathering; the slightest bruise lays a foundation for early decay. The temperature of the fruit-room should be kept as uniform as possible; 34° as a minimum, and 40° as a maximum, will be a safe fluctuation. The greatest difficulty lies in keeping a proper hygrometrical state in the atmosphere, so as not to cause shrivel by evaporation of the juices, nor promote mouldiness by damp. Frequent examinations will be necessary, and all that indicate symptoms of decay promptly removed, and the room kept sweet and clean.*

PRUNING.—There is, perhaps, no subject in horticulture so little understood as the principles upon which pruning is founded. The object in pruning fruit-trees is chiefly to hasten or regulate the crop of fruit, and induce or retard the development of wood growth. With reference to the former, more depends upon summer pruning and disbudding. Trees are frequently barren from excessive wood growth, which is weakened by pruning during summer. It is a well understood fact among scientific cultivators, that summer pruning weakens, and winter pruning strengthens, the wood growth. Hence the practice of nurserymen in pruning young trees after the season's growth is completed, to increase their luxuriance. Trees that have arrived to a bearing state, if properly managed during growth, would probably require no winter pruning, unless the removal of large and misplaced branches. In the abstract, it seems a negative practice to encourage a luxuriant growth, and then cut it down in winter. It is quite possible to manage trees without having recourse to winter pruning, unless for special objects, as already alluded to. It is certain that much injury is inflicted by the indiscriminate use of the saw and pruning-knife at this time, especially on

* [There is a growing conviction respecting fruit, to the effect that pears should be treated much as apples are, and not separately laid out on shelves; by the latter process, they are apt to shrivel, while their juices, when together, are preserved. Mr. Hovey mentions a case where a clean barrel was taken, and a bushel of russet apples put in; Glout Morceau pears were added, and the barrel was filled with more pears, and then rolled into the cellar. About the middle of February, the barrel was opened, and the pears were still green; they were then placed in a warm room, and, in ten days, they were in a fit state to be eaten.—ED.]

young bearing trees. Make it a study, next season, to disbud and summer prune all rank-growing trees, so that you may weaken and check the wood; pruning such trees *now* increases their future vigor, since, by diminishing the branches after the fall of the leaves, the roots gain a greater preponderance. On the other hand, it is no less necessary to prevent weakness from overbearing. Since the introduction of the dwarfing system by grafting on weak-growing stocks, this error has been frequently committed, and unprofitable trees have been the result. It has also had a tendency to throw discredit on the system, by those who, from want of knowledge and experience, have been unsuccessful in cultivation. There are many kinds, naturally of slender growth; grafting them on a slow-growing stock induces fruitfulness, and represses wood growth to an injurious extent. Such trees should have every blossom picked off that appears in spring, all growth carefully retained during summer, and pruned down in winter. Such treatment will be followed by increased vigor, which may be maintained by taking moderate crops, and continued good cultivation. So much depends upon individual peculiarities in trees, that it is difficult to form a definite rule that would serve as a safe guide to the uninitiated. Close observation, extended experience, and, at the least, a *slight* knowledge of vegetable physiology, are indispensable requisites to a successful cultivator of fruits.

Grapery.—The vines may be pruned towards the end of the month, and, after being loosened from the rafters, laid down and carefully covered; the borders may be top-dressed, and covered six inches in depth with manure. The house should be left aired, unless in storms or very severe frosts.

Figs are too tender to stand the winter uninjured. The best method of preserving them is to peg them down as close as possible to the ground, and cover in and through the stems either with soil or leaves. This fruit is much thought of by many, and should be more extensively grown than it is. Attention to covering from severe frosts will insure plenty of fruit.

Greenhouse.—As a general rule, the less fire heat given, the better for the plants. A night temperature of 40° will be a safe average; with sun heat, 70° will not be too high. All greenhouse plants will flower under this temperature. Those who follow the old routine practice of shutting up early, and putting on fires in the evening, keeping a high temperature during night, and opening the sashes as soon as the sun shines, need not look for many perfect flowers. If they would look a little into this management, it will be found that they have their highest temperature at the wrong period in the twenty-four hours; in other words, the house is warmer, or, at least, as warm at night as during day. The necessity of low night temperature has frequently been urged in these calendars. *It is one of the most important points in the culture of plants under glass*, and is so understood by all really successful gardeners.

The house will now be gay with primroses, camellias, azaleas, epyphyllums, coronillas, some heaths, daphnes, epacris, acacias, oxalis, &c. Water must be given only when plants are actually in need of it, otherwise they will not remain long in health.

Flower Garden.—Manuring and digging the soil should receive immediate attention. The deeper and richer the soil can be made, the better. It is only by liberal treatment that a lasting luxuriance of flowers can be obtained during the warm and dry weather; and, if the ground is well drained, or otherwise freed of superfluous water, there will be no danger of over luxuriance or imperfect maturity of the plants.

In making additions or alterations in the flower-beds or lawns, much taste and judgment will be required. It is no uncommon occurrence to see what would otherwise have been a beautiful lawn, completely divested of all character by the injudicious introduction of cut beds, and misplaced masses of flowering plants. Beds cut out at regular distances over the ground, produce what painters term "want of breadth," and, whether such beds or clumps consist of circles, ovals, or irregular-shaped figures, if placed pretty regularly over the whole, a monotony of appearance will be produced; but introduce these clumps at certain points, with open glades of lawn between; at some places form small designs in the arrangement of the figures; at others only single beds; and the result will be "an effect."

"Distinctive effect" is produced by the introduction of peculiarly shaped beds, fitted for certain positions, such as the bends or angles of walks, or connected with the external forms of buildings, so as to exhibit "expression of purpose," a term full of meaning when properly understood.

A flower garden may be invested with another feature, that of "character," either by the planting of the beds, such as a rose garden, or a collection of flowering shrubbery, &c., or by the introduction of statuary where it can be brought in. The arrangement of the walks will also occasionally give "character;" this, however, is the lowest degree of it, and those who attempt to give character by any peculiar arrangement of walks alone, evince a want of knowledge and appreciation of the beauties of nature.

PHARBITIS HISPIDA Choisy

1) var flore albo cœrul striat. 2) var flore kermesino. 3) var flore violac.

(1) Ander naevifl.

TORREYA TAXIFOLIA.